Hygeia

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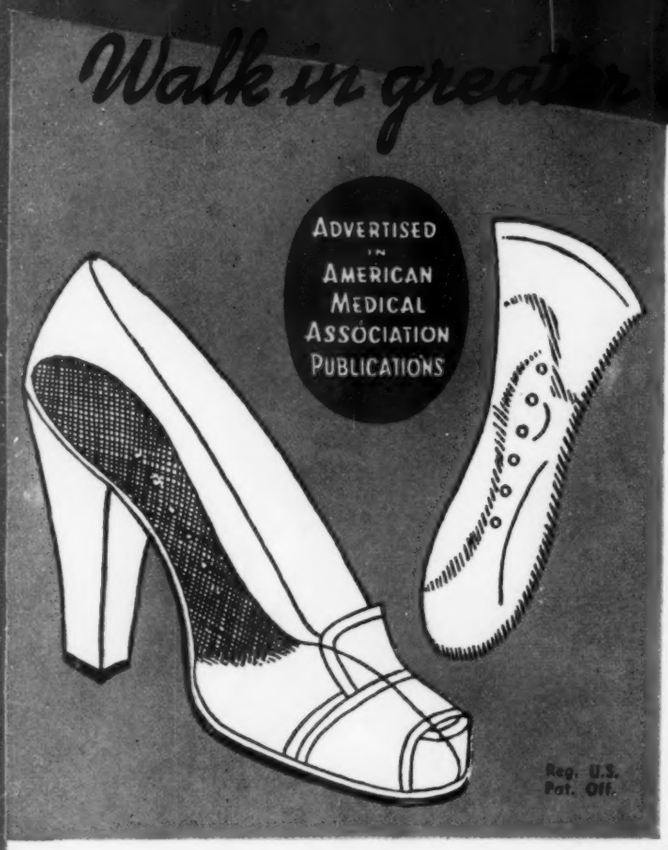

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Feeding Problems

Question: My 2-year-old daughter has always refused to eat any vegetables except carrots. I've tried disguising the others in various ways, but she still won't eat them. She is in good health and doesn't seem to be suffering from any vitamin deficiency. Do you think her health will suffer? Can you suggest anything to help me correct it?

Michigan.

Answer: It is commonly observed that children go through a period when they display peculiarities regarding diet. Practically always these eccentricities are quickly outgrown. The only cases in which they persist are those in which mothers display unnecessary anxiety and concern over the child's refusal to eat. Although there does not appear to be any reason for you to worry, it might be a wise idea to have your daughter examined by a physician.

Question: My 5-month-old baby doesn't drink enough milk and in spite of all my efforts he refuses to eat prepared vegetables. He is gaining weight satisfactorily and the doctor says he is in good condition physically, but I am afraid he is not getting enough nourishment. How can I overcome his stubborn refusal to take anything except the bottle?

California.

Answer: Since you have had your baby examined and no physical abnormality has been observed, we believe you can dismiss your fears regarding his failure to eat. Feeding is one of the basic requirements of human life and as your son experiences the need for more solid food, he will begin to take it.

Mouth Breather

Question:—Our son, four, lets his mouth hang loosely open most of the time. This has become noticeable since about 1½ years of age. Last fall he had tonsils and adenoids removed, and for a month, but no longer, he kept his mouth closed quite consistently. He does not seem to breathe through the mouth. He closes it naturally enough when reminded to do so but in a minute or two it is open again. What do you suggest?

Wyoming.

Answer:—Adenoids are a common cause of mouth breathing, but obstruction within the nose itself may also be responsible. As you no doubt are aware, adenoid tissue occasionally regrows in the back of the throat. Have your son examined by a nose and throat specialist to make sure that there is no obstruction in the nasal passage or the back of the throat.

Mouth breathing can become a habit even though there is no obstruction in the nasal passageway, and it is necessary to persist in corrective reminders. Such reminders should not degenerate into "nagging."

It might be of some help to observe whether your son breathes through his mouth when he is sleeping. Once any possible nasal obstruction has been eliminated, you may find it helpful to apply a bandage at bedtime so that he becomes accustomed to breathing through his nose. A large handkerchief can be tied snugly but not tightly around the lower jaw and up over the top of the head.

Vaccinate Early

Question:—A neighbor has told me it is not safe to have my child vaccinated against smallpox until after he has cut all of his front teeth. Will you please advise me about this, and also tell me whether there are any other reasons for not vaccinating a child?

Arizona.

Answer:—There are virtually no reasons for not vaccinating an infant shortly after birth and the fact that smallpox is still observed in various parts of the country is sufficient reason for doing it early. Certainly the presence or absence of teeth need not be considered.

Evidence that smallpox vaccination causes no undesirable complications even in illness was published in the *Journal of the American Medical Association.* It was noted that in a large contagious disease hospital it has been the practice for 30 years to vaccinate all patients upon admission if they show no evidence of previous successful vaccination.

There has never been any serious complication from the procedure, regardless of age of the patient or the severity of the disease for which hospital admission was necessary.

It is frequently stated that there are no contraindications to vaccination for smallpox, and in the broad sense this is correct, for the protection provided against this serious disease far outweighs other considerations. It is recognized that on rare occasions a form of encephalitis may occur following vaccination, and there have been cases in which various infections, including tetanus, have resulted from contamia nation of the vaccinated area on the skin.

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Hygeia
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Contents

INFORMATION FOR MOTHERS		655
WHO'S WHO		656
FORECAST		658
QUESTIONS AND ANSWERS		660
OUR SCHOOLS AND HEALTH—AN EDITORIAL	Dean F. Smiley, M.D., and Fred V. Hein, Ph.D.	669
ADOLESCENT ACNE	Lester Hollander, M.D.	670
ABOUT CHILDREN AND ART	Helen Knapp	672
NEW TRAILS IN MEDICINE	Edward L. Bortz, M.D.	674
HANDS OFF THOSE GAY AUTUMN LEAVES!	Robert P. Little, M.D.	676
IS YOUR CHILD GOOD?	Josephine Poynter	677
A HEALTHY START TO SCHOOL	Lewis J. Burch, M.D.	678
WAR ON POSTWAR PESTILENCE	Virginia Rishel	680
MISPLACED SYMPATHY	P. H. Belding, D.D.S.	682
FOOD MAKES THE DIFFERENCE	Staff	684
WATCH YOUR STEP, GRANDMA—*and You, Too, Grandpa!*	Philip Lewin, M.D.	687
RIDDLE OF THE LYMPH	Henry Morton Robinson	688
REMEDYING DEFECTIVE SPEECH IN CHILDHOOD	Wanda Land	690
UNDULANT FEVER	Thurman B. Rice, M.D.	692
BABY KNOWS BEST	Rose Zeligs	694
REMEDIAL READING	Dorothy Ingram Lightfoot	696
WILL ROSS AND THE REHABILITATION OF THE TUBERCULOUS Part II	J. Arthur Myers, M.D., and Virginia Dustin	698
MEASLES AND ITS PREVENTION	Archibald L. Hoyne, M.D.	700
WHAT ABOUT THE IQ	G. D. Stevens	702
BOOKS ON HEALTH		732
HEALTH IN THE HEADLINES	Ellwood Douglass	734
COVER	George McVicker	

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WHO'S WHO *in Hygeia*

"POYNTERS" ON LITTLE ANGELS

JOSEPHINE POYNTER always wanted to write fiction but it took "live material, which I gather from nursery school and home situations, to be truly inspirational." Miss Poynter, a qualified nursery school teacher and mother of three small children, found the time to start a Mother-Cooperative nursery school in Belvedere, California, and direct the reorganization of the Marina Cooperative Play-School in San Francisco. For over a year she wrote a weekly column, "Child Care Poynters," for the San Francisco *Chronicle*. Miss Poynter says "I feel that I have only begun to describe a few of the fascinating things that children do every day."

YOUNGEST IN OUR HISTORY

Dr. EDWARD L. BORTZ, who writes about new trails blazed by modern medicine, is the youngest President in the history of the American Medical Association.

Dr. Bortz obtained his A.B. and M.D. degrees at Harvard University, and interned at Lankenau Hospital in Philadelphia. After graduate work in pathology at the universities of Berlin and Vienna and the Mayo clinic in Rochester, Minn., he began his teaching career in the Graduate School of Medicine at the University of Pennsylvania, where he now is Associate Professor of Medicine.

Dr. Bortz is at present Governor for Eastern Pennsylvania and Vice-Chairman of the Board of Governors of the American College of Physicians and assistant editor of the "Cyclopedia of Medicine." As Chairman of the Council of Scientific Assembly of the American Medical Association, during the organization's Centennial celebration he was in charge of the scientific program.

Author of a manual on diabetes and numerous articles on metabolism and geriatrics, Dr. Bortz was awarded the Meritorius Service Medal of the Commonwealth of Pennsylvania for work on the Pneumonia Commission of the State Medical Society 1939.

During World War I the young Mr. Bortz was a pilot in the Army Air Service. During World War II he saw action for four years as a captain with the Navy Medical Corps. He served

(*Continued on page* 662)

To Forestall . . . . . .

"the emotional pull away from a good diet"[1]

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1. Clair E. Turner (address to the Institute on Social Medicine, Centennial, New York Academy of Medicine).
2. National Research Council, Recommended Dietary Allowances, 1945.

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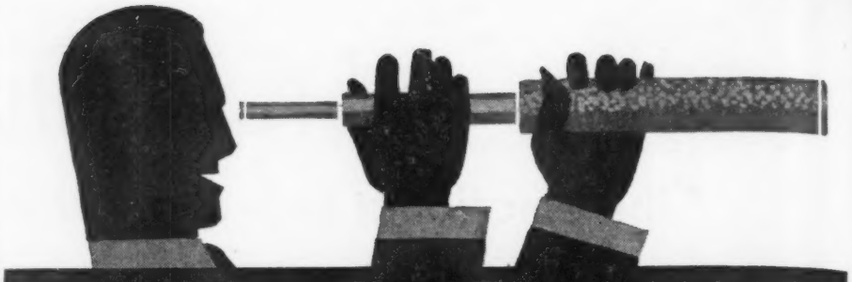

Coming in HYGEIA

THE INFLUENCE OF EARLY EXPERIENCES ON MARITAL ADJUSTMENT

By Maria W. Piers, Ph.D., and Edith G. Neisser

All of us know that childhood influences mold adult personality but perhaps not that the way a child feels about being a boy or a girl has the most direct relation to happiness in marriage. If he or she always understands that both sexes are all right and each has an important and valuable part to play in the world the chance of marriage adjustment is good. But the method of building such understanding, or even of not interfering with it, is not always clear to parents. They will find a wealth of common sense in this article by two experts of the Association for Family Living.

SPEECH WITHOUT A LARYNX

By Harold Shryock, M.D.

This forthcoming article is quite as extraordinary as the title indicates. There are people who have the power of speech after the "voice-box" has been removed. They speak without artificial means by a fantastically ingenious substitution of another organ.

Dr. Shryock has interviewed a number of them and we think you will find the account of his investigation one of the best pieces that this California anatomist, a HYGEIA regular, has done for us.

SO YOU THINK IT'S SINUSITIS

By A. C. Furstenberg, M.D.

Generally, says this specialist, Dean of the University of Michigan medical school, it isn't. Not one person in fifty who goes to the physician with a self made diagnosis of sinus infection actually has the disease. Headache arises from an infinity of causes, rarely sinusitis; the healthy nose secrets a quart of water a day; the tissues automatically adjust the air inlet to suit the atmosphere and sometimes shut it off as a normal means of self protection. But with all false ideas swept aside, plenty of real and troublesome sinusitis remains. It can be cured and this coming article tells how.

IN THE FREQUENTLY OVERLOOKED

Human Phase OF NUTRITION

HUMAN nutrition presents many phases not encountered in experimental studies. The laboratory animal, driven by hunger, will eat and thrive on any food substance that is adequately nutrient. Taste and variety and meal satisfaction are of little moment in such nutritional studies.

In human nutrition, the joy of eating, and especially the satisfaction of having eaten well, play an important role. Frequently, though physiologic hunger has not come about, it is the pleasant memory of the last meal that engenders the appetite.

To add satiety value to the meal, candy may well serve as its last course. Even an otherwise drab meal gains much when topped off by a piece or two of candy.

Confections in the manufacture of which milk, butter, eggs, fruits, and nuts or peanuts are used, are particularly suited for this purpose. This is true because of their universal taste appeal, but also because they contribute small amounts of many essential nutrients.

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   (b) present appreciable amounts of the important minerals calcium, phosphorus, and iron;
   (c) contribute the niacin, and the small amounts of thiamine and riboflavin, contained in these ingredients.
4. Candies are of high satiety value; eaten after meals, they contribute to the sense of satisfaction and well-being a meal should bring; eaten in moderation between meals, they stave off hunger.
5. Candy is more than a mere source of nutriment—it is a morale builder, a contribution to the joy of living.
6. Candy is unique among all foods in that it shows relatively less tendency to undergo spoilage, chemical or bacterial.

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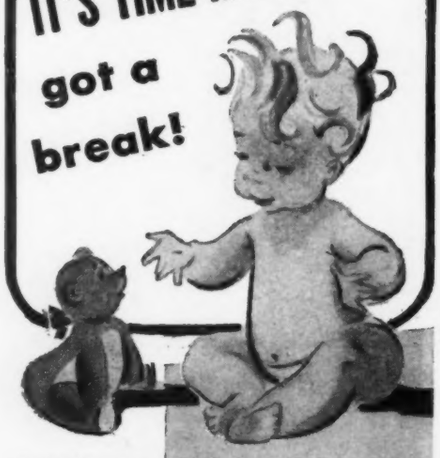

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QUESTIONS and ANSWERS

Paying the Doctor

Question:—What is the correct way to write a doctor's name when issuing a check for his services? Should it be "John Jones, M.D.," "Dr. John Jones," or plain "John Jones?"

California

Answer:—If the doctor is a doctor of medicine it is correct to write John Jones, M.D. If, however, he is some other kind of a doctor, it is probably better to address him as Dr. John Jones.

Since medical expenses beyond a certain percentage of income may be deducted in paying income tax, it might be well to indicate on the check the nature of the payment to the doctor.

High Blood Pressure

Question:—My brother, 44, who had high blood pressure, collapsed while plowing a field one day, and died about an hour later. The autopsy showed that he had suffered a hemorrhage in his brain. It appears that at the time he collapsed he was struggling to get the plow loose from a large root. Could this sudden strain have caused the brain hemorrhage?

Michigan

Answer:—Blood pressure is raised temporarily by any excessive straining. It is logical to conclude that in the case of your brother the extra exertion played some part in producing the bleeding. This would be more likely if, in addition, there was disease of the brain arteries. Such disease frequently accompanies high blood pressure. It is recognized that in this type of disease brain hemorrhage may occur at any time, regardless of activity of the individual. In fact, death takes place from this fairly frequently during sleep. Because the blood pressure increase induced by sudden straining is only momentary it sometimes is difficult to say with absolute certainty that such exertion was directly responsible. However, in the case of your brother this conclusion would appear acceptable.

Artificial Legs

Question:—What is the best artificial leg for one who has lost his leg at the middle of the thigh? This person is fairly heavy, weighing 195 and being 5 feet, 9 inches tall.

Massachusetts

Answer:—It cannot be said that there is any one "best" artificial leg, and certainly no decision could be made as to what would be most satisfactory for the person under discussion without actual examination. Perhaps the most important factor in obtaining satisfactory results are careful fitting of the socket and thoroughness on the part of the manufacturer's representative in teaching the patient how to use the leg.

In general, the material from which the leg is made has little relation to its usefulness. Some wearers find certain types of material too light, others too heavy for comfort. Final selection is an individual matter. In practically all larger cities there are companies that assemble artificial limbs, using stock parts for this almost entirely.

A new type of appliance known as the vacuum socket limb is now being produced experimentally. This, as the name suggests, does not require use of straps or belts. It is apparently best suited for persons who have lost a limb as a result of accident. Experimental studies indicate that it should not be applied in a patient whose limb had been removed because of diabetes, hardening of the arteries or cancer.

Answers given here are limited to brief replies to specific questions. Full discussion is not intended. Questions involving diagnosis or treatment should be referred to the family physician.

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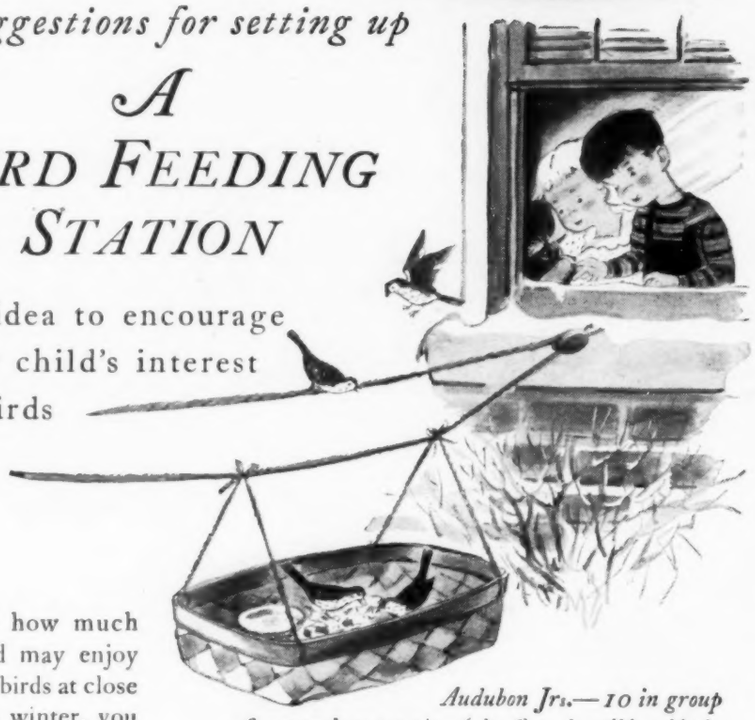
Suggestions for setting up

A Bird Feeding Station

An idea to encourage your child's interest in birds



Audubon Jrs.—10 in group for 15c dues get pin, 6 leaflets describing birds, 6 bird color plates, 6 outline drawings to color.

Knowing how much your child may enjoy observing birds at close range this winter, you may want to make use of these suggestions for setting up a bird feeding station. This information as to how and where your stand should be located and how it should be stocked for your "bird boarders" comes from the National Audubon Society.

By starting your feeding station early in the fall, it is often possible to keep some birds north all winter. It is important to remember, though, that once you have started a feeding stand, the birds will come to count on this and may starve if it is not continued until spring.

One suggested way of attracting birds nearer the house is to set up a moveable feeding station—such as a weighted basket on a pulley arrangement—and starting it in a nearby tree, move it nearer the house a little bit every day. You might also caution your child not to move too quickly when looking at the birds from the window.

The easiest thing to remember about feeding birds is that they will eat almost anything humans do. Birds are fond of food containing fat, and like peanut butter, and all kinds of nuts. Pumpkin or sunflower seed makes popular bird food, too. And you'll want to keep water on your feeding stand, as well as food, so that your bird guests will have everything they need.

This information comes to you from Miss Dorothy Treat, Secretary of the Audubon Junior Clubs, National Audubon Society, 1000 Fifth Avenue, New York 28, N. Y. For any further information about bird feeding stations, or about birds in general, write to the National Audubon Society.

We hope the foregoing is helpful to you just as millions of people find chewing Wrigley's Spearmint Gum helpful to them.

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is your standard of quality for complete chewing satisfaction

(*Continued from page* 656)

with the Marines on Iwo Jima and in the atomic bomb area at Nagasaki.

His sensitive nature aware of the suspense and suffering of his fellows and the tragic beauty of the surroundings, Dr. Bortz composed a tone poem for the 5th Marine Division that became a new Marine Corps march, "To Men of Iwo Jima." It was played by the Philadelphia Festival Orchestra at the opening general meeting of the Centennial Session.

PUBLIC HEALTH OFFICIAL

On page 692 is Part 1 of an authoritative discussion of the symptoms, causes and methods of prevention of the widespread and yet poorly understood communicable disease undulant fever. The writer, Dr. THURMAN B. RICE, has held many public health offices in Indiana such as director of the state Hygienic Laboratory, director of the Bureau of Health and Psysical Education and state health commissioner. He is now professor of bacteriology and public health in the School of Medicine at Indiana University, where he obtained his A.B. and M.D. degrees. Dr. Rice has done research in bacteriophage, sex education and health and physical education.

PRACTICING PHYSICIAN

Don't neglect your child's cough—it may be merely the symptom of a cold but it could be measles. Dr. ARCHIBALD L. HOYNE, past president of the Chicago Pediatric Society, tells in "Measles and Its Prevention" how to attenuate its severity. He is at present Medical Superintendent of the Municipal Contagious Disease Hospital, Chicago. Graduate of the Rush Medical College now part of the University of Illinois College of Medicine, where he has been a professor of pediatrics since 1913, Dr. Hoyne has done work in contagious diseases, epidemic meningitis, heart complications in diphtheria, scarlet fever and measles.

BABIES ARE BRIGHT

Miss ROSE ZELIGS, who says babies are born with instincts about the amount of food their bodies require, has a Doctor of Education degree from Teachers College, University of Cincinnati. She is a sixth grade teacher in the Avondale Public School of Cincinnati. She has written other articles for HYGEIA and for psychological, educational and sociological journals. Her recent book, "Glimpses into Child Life," is a study of the 12 year old at home, at school and in the community.

(*Continued on page* 664)

VALUABLE IN UNDER NUTRITION

From the great strides made in the science of nutrition during the past ten years, it has become apparent that maximum resistance to infection, normal growth, and a sense of well-being are closely linked to the nutritional state. Underpar nutrition undermines the general health and impairs strength and vigor. Furthermore, full growth and development in children are prevented by nutritional abnormalities.

The delicious food drink made by mixing Ovaltine with milk has been widely used for many years in preventing nutritional deficiencies. It provides more than vitamins alone—containing virtually all the food elements considered essential in a well-rounded dietary supplement. It provides proteins that are biologically adequate, readily utilized carbohydrate, easily emulsified fat, B complex and other vitamins including Vitamin C, and essential minerals.

Bland and digested with remarkable ease, this dietary supplement is appealing to everyone, children and adults alike. Three glassfuls daily in conjunction with even an average diet virtually assures an adequate intake of all essential nutrients. Consequently, it is valuable for children who show resistance to milk or other foods, and for adults who require dietary supplementation because of recent illness, recent recovery from surgery, and during periods of reduced food intake.

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PROTEIN	32.1 Gm.	VITAMIN B_1	1.16 mg.
FAT	31.5 Gm.	RIBOFLAVIN	2.00 mg.
CARBOHYDRATE	64.8 Gm.	NIACIN	6.8 mg.
CALCIUM	1.12 Gm.	VITAMIN C	30.0 mg.
PHOSPHORUS	0.94 Gm.	VITAMIN D	417 I.U.
IRON	12.0 mg.	COPPER	0.50 mg.

*Based on average reported values for milk.

At some convenient fine store you will find the Neslings brand garments to meet all of your Baby's essential underwear needs. What better assurance of complete satisfaction for mother and child than that "the fourth generation is growing up happily in Neslings"?

A. Baby's first shirt, the "tie-way foldover", so easy to put on.

B. Two styles of panties—for night wear double fabric throughout, for daytime a panel of double fabric. Easy to slip on and off,—to wash.

C. Baby can't kick out of this Nesling gown—can't suck his thumb. Soft balbriggan knit fabric.

D. Designed as recommended by doctors, this abdominal support is very necessary for baby's first few weeks.

E. Colorful teething bibs—four thicknesses of fabric under chin.

F. Neslings Knit SAFETY crib cover—Baby can't kick it off—can't pull it over his head. Seasonal fabrics in white, pink and blue. Easily tubbed.

G. The "slip-on" preferred by mothers when baby is more manageable.

When buying shirts and panties, be sure to *know Baby's weight*—then the clerk will give you *just the right Neslings size.*

*T.M.'s Reg. U. S. Pat. Off.

MINNEAPOLIS KNITTING WORKS · Minneapolis 11, Minn.

(*Continued from page* 662)

A WOMAN TALKS

"Speech is my main activity (being a woman)" explains WANDA LAND, writer of "Remedying Defective Speech in Childhood," that appears on page 690 of this issue of HYGEIA. Miss Land states that she has been participating in forensics for the last six years and is Student Manager of Forensics of the University of Missouri School of Journalism.

SEARCHING FOR YEARS

Convinced that restorative dentistry is not the answer to dental health, PAUL H. BELDING, D.D.S., has been searching for more than fifteen years, in association with his brother, L. J. Belding, M.D., for the cause and cure of dental caries. He uses a story to make a point in his article, "Misplaced Sympathy," on page 682.

WEEKS TURN INTO YEARS

What was originally going to be a six weeks' stay in Washington, D.C., has now resulted in a fourteen year residence for VIRGINIA RISHEL, writer of "War On Postwar Pestilence," in this issue of HYGEIA.

She found the closeup view of government politics too absorbing to leave and has written many articles on this phase of current events. Her interest in international affairs dates back to a round the world student cruise taken in 1930 shortly after her graduation from the University of Utah.

INTERESTED IN DERMATOLOGY

In answer to a request for biographical material ROBERT P. LITTLE, M.D., said:

"I graduated from the Ohio State University in 1923, interned in the John Sealy Hospital, Galveston, Tex., and the Children's Hospital of Los Angeles and did general practice at Santa Paula, Calif., for many years. I have recently been interested in dermatology and I have written quite a number of popular medical articles and some for medical journals."

ART BY CHILDREN

The illustrations on page 675 are preschool drawings by Don McVicker and Joan Turzak. Don did the raggedy figure and Joan drew the chubby little girl and the tiger.

Joan, the daughter of Charles Turzak, Hygeia Art Director, is now 11 years old. She studies at the Chicago Art Institute on Saturdays and in June received the only honorable mention in her class.

Don, 13 years old, posed for this month's cover painting by his father, George McVicker. He has studied at the Institute of Design, Chicago and is interested in Mayan art.

OUR SCHOOLS and Health

An Editorial by DEAN F. SMILEY and FRED V. HEIN

SCHOOL bells calling millions of American boys and girls back to another year of educational activity will soon ring again. The great majority of children will return to their school tasks with anticipation of happy, satisfying experiences. Parents will look forward to continuing educational growth and achievement for their children. Teachers will entertain high hopes of satisfactory progress for their pupils. The entire community will look with confidence to our schools to carry on their vital assignment for another year.

But it is not the school of our youth that the children of today are going back to. Significant discoveries in child growth and development have played a major role in reshaping educational methods in the last two decades. The school has changed in many respects. Friendly pupil-teacher relationships and cooperation between the school and home have become the rule rather than the exception. Teachers make every effort to emphasize the needs and problems of the individual pupil. Educators like physicians have come to realize that they cannot deal with one aspect of the child's development without influencing his total personality. The modern school is as much concerned with the social and physical growth of children as it is with their mental development.

The primary responsibility for the health of the child rests with the parent. On the other hand, during twelve of the formative years the schools have an unusual opportunity to work with parents, physicians, dentists and other interested people to elevate the health and fitness standards of our youth. In some instances, however, little more than lip service, still, is being given to the health objective in education. Greatly enriched programs of health and physical education are needed as integral parts of the curriculum. This requires vigorous action on the part of education and public health departments. It necessitates enlisting the help of medical and dental societies, parent-teacher associations, voluntary health agencies and certain civic organizations. Above all it demands the cooperation of all these community groups.

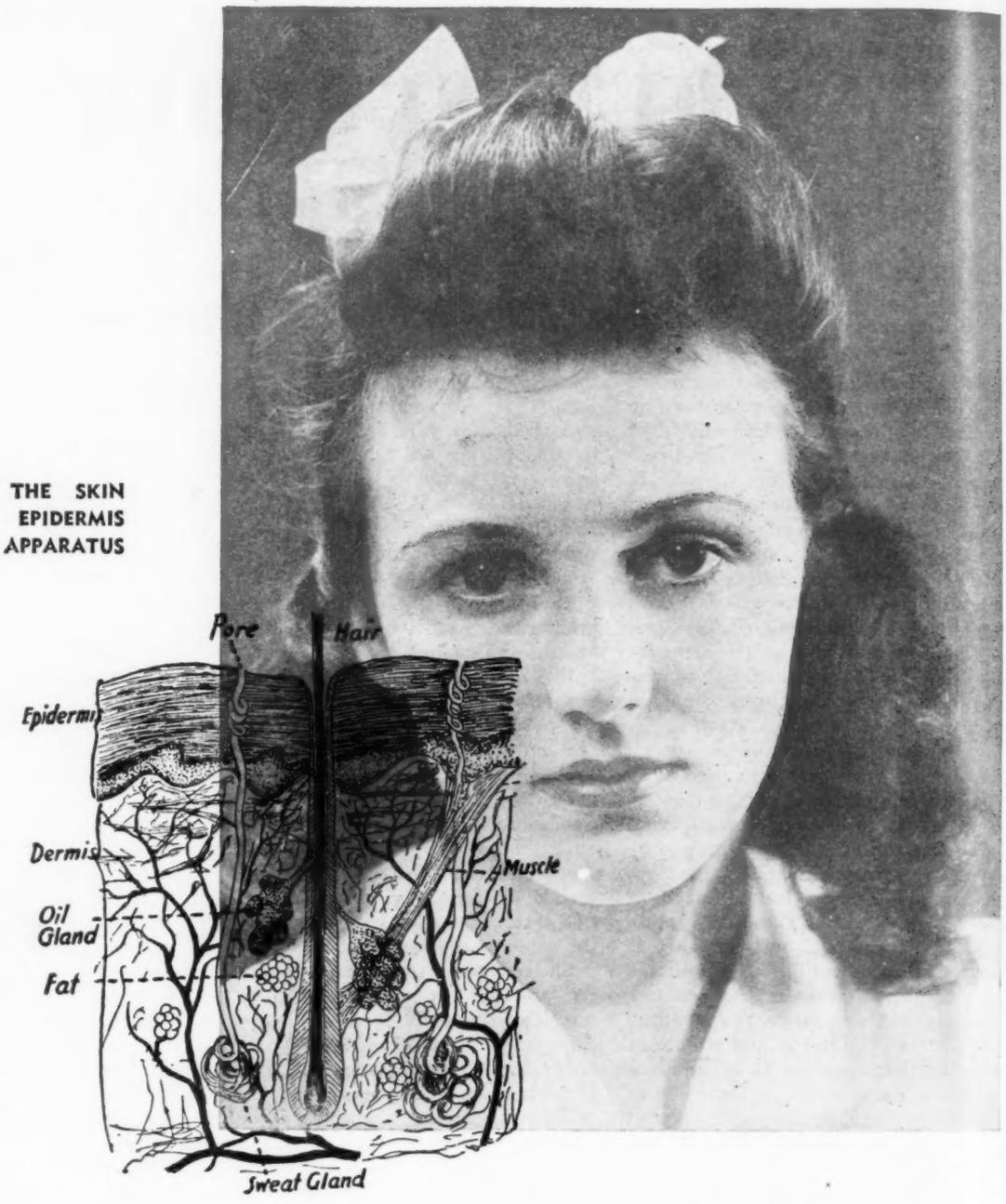
A program of health teaching is needed which will aid the child to form good health habits and to make wise decisions based on scientific knowledge of health and disease appropriate to the various school levels. It is important that such instruction be carefully planned to suit the needs and interests of the pupils. Emphasis should be given to enlarging the child's ability to assume increasing responsibility for his own health as he progresses from grade to grade. Not only should children acquire information about health but they should have experiences in healthful behavior that will make good health conduct a part of everyday living. Adequate time allotment, ample materials of instruction and well qualified teachers are no less essential than for other subjects.

Skills, strength, endurance and agility are not the only objectives of physical education. It should furnish a laboratory for the practice of democracy. Skillful guidance can provide opportunities for self expression and relief from tension and to bring about a sense of achievement. There need to be a program for boys and girls who are capable of enjoying a full schedule of activities; a modified plan for children whose exercise must be restricted; prescribed corrective activities for those who will benefit from such a routine. The class period should be regarded as a time for effective instruction and not as an occasion for undirected play. During leisure there should be a chance to practice and enjoy the skills learned in the classes. Opportunities for informal play, a broad intramural sports program within the schools as well as competition against teams from other schools should be available. Suitable activities can be provided for all the children without favoring the strong at the expense of those whose physical fitness needs are greatest.

Only a healthy child can realize the maximum value from his school experiences. Alert parents and teachers can detect health problems which demand further study by the physician. The teacher and the nurse working together can make certain simple tests and inspections, like those of vision and hearing, which may show the need for referring the child to a specialist. In addition, periodic health examinations by the family physician at about three year intervals will serve as a double check on the fitness of the child. The examination should be a means of pointing the way toward helpful action to conserve and improve the child's health. It has real value only when necessary corrective action results. The school should lead the family to obtain diagnosis and treatment of defects that may be remedied. Health conditions that cannot be corrected may require modification of the child's school program or special education to aid him in adjustment to his handicap.

New school buildings are being designed with proper consideration for children's health and activity needs. But most American children do not attend new schools. Continual, systematic repair, careful maintenance and regular replacement are needed to provide healthful school living for children. Children cannot be kept healthy or learn to live healthfully when surroundings are unhygienic. Poorly fitting school seats, unsanitary toilets, inadequate lighting, small, poorly surfaced schoolyards and the lack of playrooms and gymnasiums are only a few of the conditions that may create health hazards and prohibit suitable health and fitness programs. Providing safe and healthful schools for our children must have priority in community planning.

Science has given us in recent years knowledge that should enable man to eradicate certain diseases, to curtail the death-dealing power of some and to permit long-term survival in the presence of additional disorders. The schools offer us among other things a chance to disseminate this health knowledge and put it to work for our whole population, thus delivering us from a burden of preventable illness that would cost far more than our whole educational budget. Let us "spend to save," and generously provide our schools with the means of supporting health programs that will serve this high purpose.



SECTION THROUGH THE SKIN SHOWING DERMIS, EPIDERMIS AND PILOSEBACEOUS APPARATUS

by LESTER HOLLANDER

A COMPLEX little mechanism called the pilosebaceous apparatus is the seat of the disturbances that cause acne. Although the skin appears smooth and unindented, it is pitted with countless minute depressions. They provide channels for the hair shafts and outlets for the sebaceous and pilosebaceous glands that lubricate the skin and hair. The oily and waxy material is expressed slowly through the pores by pressure exerted across the body of the glands by minute strands of the "hair-raising" muscles, *arrectores pilorum*.

These structures, with needed blood vessels and nerve fibrils derived from the surrounding area, comprise the pilosebaceous apparatus.

The pilosebaceous apparatus of the face, chest and back remains dormant during infancy and childhood. Hormonal influences arising in the sex glands during adolescence, that turbulent transition age between childhood and physical maturity, end this inactivity.

Any excess in stimulation or demand that cannot be met by this apparatus, any organic insufficiency in size or capacity of excretory duct or external outlet, any weakness in the hair-raising muscles, any difficulty in proper expulsion of the sebaceous material or any alteration in the substance itself that changes its viscosity and contributes to stagnation within gland or duct, results in a set of circumstances leading to the development of adolescent acne or acne vulgaris.

Although the condition is equally as frequent in boys as it is in girls, I like to call it the schoolgirl complexion, since that has been advertised as a desired objective and since complexions are notor-

ADOLESCENT ACNE

The Schoolgirl Complexion

iously worse at this schoolgirl age than at any other. Claims of any specific complexion value for any specific soap are, incidentally, as open to question as the desirability of the real schoolgirl complexion.

Symptoms of acne consist of all the elements that go to make up a bad complexion. Blackheads, whiteheads, pimples, oily skin, dandruff, stringy hair, widely dilated pores, easy irritability of the face, a tendency to flushing, the appearance of small or large boils—these singly or all together, make up the clinical picture. When the disease has lasted several years or in the aggravated form even after a few months, various sized, rounded and elongated depressions or scars appear and remain as the telltale stigmata of the disease.

A blackhead or comedone is a waxy plug of material which the pilosebaceous mechanism is unable to push out. A short portion of its outer end, exposed to the atmosphere is blackened by oxidation; and so the blemish is descriptively called a blackhead.

The comedone or blackhead is not an accumulation of dirt or soot and it is not produced through any fault in the hygienic habits or the lack or inadequacy of the washing ritual of the young patients. I want to emphasize this negative statement because elders charged with the care of these youngsters frequently and vehemently accuse them of laxity under the erroneous impression that blackheads thus result.

A whitehead or milium is also a waxy conglomeration of a blocked sebaceous or pilosebaceous gland devoid of an excretory duct. Since no part of it is exposed to the atmosphere and oxidation cannot occur, the material remains unaltered in color and thus its descriptive name, the whitehead.

Pimples are manifestations of localized inflammation and necrosis or "dying off" of the skin glands. They arise as the result of irritation and pressure from rudimentary or fully formed comedones that obstruct the flow of sebaceous material and act in the manner of a foreign body or a splinter introduced into the skin. When the extent of necrosis is sufficient to cause liquification and appreciable pus production, the skin lesion is better termed a pustule.

Since the seat of acne is in the pilosebaceous mechanism and the scalp is richly endowed with it, it is not difficult to understand that patients with adolescent acne usually have many scalp symptons, with excess oily exudate the hair becomes stringy, oily and greasy; occasionally a rancid odor emanates from the volatilized sebaceous material, and frequently the scalp is scale-covered. This scaliness or dandruff is the subject of much misunderstanding, many misstatements, some of which are deliberate, some only thoughtless.

In spite of all advertisers to the contrary, I make this unequivocal statement:

The ordinary dandruff that cause the vast majority of scalp scaling has no connection with any infection, germ, microbe, fungus, virus or any living, communicable parasite or bacteria.

Despite all such hocus pocus, scalp lotions or scalp tonics have no more salutary effect than simply washing away the accumulated normal epithelial flakes or scales that happen to be one of the component parts of dandruff. The rest of it consists of all sorts of accumulated debris, precipitated and dried pilosebaceous and sebaceous material, soot, coal dust, extraneous foreign material and soap deposit.

In plain words dandruff is a mixture of normal skin scales mixed with unhygienic debris and pilosebaceous material. It is removable with a proper solvent and does not need the questionable pseudoscientific benediction of white coated, microscope surrounded, test tube holding impersonators of supposed disciples of photogenic microbe hunters made glamorous by movie reel and sound track and appearing very learned in the pages of magazines.

Simple scalp hygiene through frequent and thorough hair and scalp washing (even daily if need be) is all that is usually required to counteract this unglamorous phase of the disease. I must point out that in localities where hard water has to be used a type of rinse containing a water softener is imperative to prevent the precipitation of soapy elements. These are frequently so irritating as to cause itching and the almost overnight appearance of flaky dandruff.

One of the most frequent questions raised by acne patient and parent is the likelihood of permanent scarring. In most instances, at the time the question is posed scars already exist so that in the strictest sense the answer (*Continued on page* 707)

Photo by Suichi Sunami, Museum of Modern Art

by HELEN KNAPP

THE first day of school—even nursery school—is often miserable for new children, but it was worse than that for Jean. With her elfin face and soft curls, she was an exceptionally pretty child, but she was also exceptionally shy. Not only the first day, but every day the first week, she stood with her face against a tree, refusing to be lured into games, whimpering when anyone spoke to her.

The teacher did not try to force her to join the other children. Instead she persuaded her, finally, into the art room. There Jean could work alone, without anyone to stand over her or ask questions or demand anything at all of her.

The teacher watched, however, unobserved. She was pleased to note that Jean's were not the closed, cramped, tiny designs that one might expect of an unusually constrained child, but lovely, free, rhythmic, in bright, gay colors.

So the teacher watched and said nothing, but gradually the others in the class began to notice and admire—and this is what a 3-year-old wants. It did not happen in a day, or even a week, but slowly Jean began to make friends. At first it was just in the art class, then gradually the circle widened. The next year Jean joined in building a boat, taking the suggestions of the other children, and sometimes making suggestions of her own.

As Jean reached her teens, her good looks were matched by her poise and friendliness. All that remained of her shyness was a certain sweetness of manner not often found in very pretty teen-age girls, and this made her popular with other girls as well as with boys.

Jean's experience, says Dr. Lois Barclay Murphy of the psychology faculty of Sarah Lawrence College, a guest lecturer before the Committee on Art Education sponsored by the Museum of Modern Art, is typical of that of many children she has met in the nursery school.

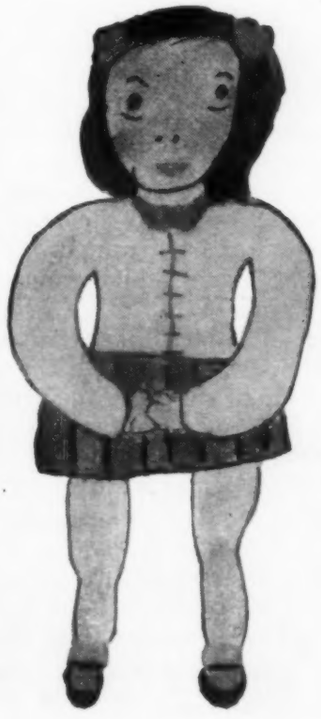
Few grownups realize how difficult it is to be only 3 or 4 years old, says Dr. Murphy. You've just learned to walk and the span of your world has grown from what you can see from where you are to take in immeasurable distances full of unheard-of things and strange and frightening people. You're faced, suddenly, with the whole wide world and you have only a few words to use to ask for explanations or even to say how you feel about it.

about children and art

It's easy to understand why a child suddenly becomes shy and retires within himself. Or why, as his imagination expands, he begins to be afraid of the dark. It's only natural but if parents or teachers become overanxious about such things and say, "Shame on you!" or "I can't understand what's got into you!" too often, the fears may become fixed and unhealthy attitudes develop. That's

why Dr. Murphy, along with many other child psychologists today, thinks the art class one of the best places for children.

With a large, flexible brush and some water colors he can mix himself, or with a piece of modeling clay, the child can express all these new, confusing emotions and use up his huge store of energy in comfort and peace. There's nothing to fall out of his hands and break. No blocks to fall down to be bumped into. Best of all, there's nobody standing around and just waiting to say "Don't do this" or "Why don't you do so-and-so?"



Too, art class often helps the lonely child to achieve the distinction among his fellows that he yearns for. There was Johnny, a boy Dr. Murphy remembers, who was shy and silent almost to the point of sulkiness. An only child, with no playmates at home, a sick mother in the hospital and only an indifferent maid to care for him, his life lacked the store of happy, intimate events that form the basis of conversation in nursery school circles.

It lacked them, that is, until the day after his birthday when he painted a huge birthday cake, complete with candles, which filled an entire sheet of paper.

The other children, properly impressed, asked many questions and Johnny experienced a rare and pleasurable sense of importance. The event served

Preschool drawings by Joan Turzak and Don McVicker

as an entering wedge that gradually broke down his sense of inferiority and consequent reserve until he could join both play and work on an equal footing with the other children.

It's all a far cry from the nursery school of not so many years ago where children sat stiffly, cutting out or tracing figures provided by the teacher or moving a crayon about to fill a set space. Art for today's child, Dr. Murphy believes, should not mean doing dull things to please other people, but doing exciting things in the way that suits the doer best and best describes his world and how he feels about it. It can do much, not only to make the child happier today, but to give him attitudes of pleasurable exploration and accomplishment that he will carry with him all through life.

by EDWARD L. BORTZ
President, American Medical Association

THE achievements of medicine may be emphasized by the substantial increase in the life span brought about during the last century. In 1847 the average length of life of our people was about forty years. By June, 1947, this has increased to almost sixty-seven years. Such an accomplishment may be regarded as one of the major attainments of modern science.

The American Medical Association has been in the forefront during the hundred years of its existence in fields of significant importance to the health, welfare and happiness of the American people. The Association was created originally to raise the standards of education of the doctors. It rapidly took a positive stand in extending the benefits of public health measures. The Association is continuously tracking down quacks and charlatans. It emphatically condemns the unwise use of patent medicines.

Medical science in the last twenty-five years has discovered remarkably effective weapons for the control of infectious diseases. Important new information with reference to nutrition, disorders of the glands, the control of diabetes and obesity, and our knowledge of various nervous and mental disorders have made the doctor a more effective public servant than in any previous time in the history of humanity.

We are indeed a more healthy people today. We are living longer. The mature and productive years are increased in number, and the ravages of old age may be delayed if the public will cooperate with the medical profession in utilizing available information for the control of the diseases which are the common lot of all people.

Since so many folks are living into the later years of life, the diseases which afflict them are appearing with greater frequency. Organized medicine has been alert to this change in the type of medical problems. In their Centennial Session the doctors are busily engaged in studying the results of various researches in the fields of heart disease, high blood pressure, hardening of the arteries, cancer, the anemias, ulcers, and mental stresses and strains.

Probably no other group has a keener sense of social responsibility than has the medical profession. The better informed the doctor is, the more effectively he can solve the problems of his patients.

The so-called diseases of modern civilization are receiving a great deal of attention by medical investigators. Mental disorders, increase in blood pressure, thyroid disease, various kinds of ulcers, diabetes, and a number of glandular and nutritional disturbances appear to be in many instances the result of environmental stresses and strains. In the field of social medicine the profession is extending

From an address given over the Columbia Broadcasting System, June 11, 1947, in connection with the Centennial Session of the American Medical Association.

its frontiers. Knowledge is advancing, and cures are being effected with greater frequency.

The American Medical Association is sensitive to the importance of the atomic age—medically speaking. As a matter of fact, physicians have been using radioactive agents, namely the x-rays and radium, for a good many years. However, substances such as carbon, iodine and other elements that have been made radioactive are now being subjected to the most intense and careful investigations.

These researches are promising. Medical science in the next twenty-five years hopes to utilize these new instruments to bring about a clearer understanding of the normal structure and function of the human body. When the normal is understood, control of the abnormal conditions which cause the deterioration of organs and tissues should follow.

This new approach looks hopeful in the particular fields of skin disease, diabetes, hardening of the arteries, arthritis and certain glandular disturbances. Experimental work with radioactive agents can be accurately controlled. The time needed for various disturbances to appear may be closely ascertained. The earliest deviation from normal, a point of great practical significance, should be revealed with these new agents of study.

Just a word about the great contributions which man's friends the lower animals have made in behalf of a more abundant life for their guardians. Through the humane cooperation of lower animals insulin was discovered. New surgical technics of greater efficiency have been developed. The secrets of blood diseases have been clarified. Glandular disorders have yielded their secrets. Infections have been brought under more adequate control, and human lives have been lengthened and enriched. A clearer understanding of nutritional requirements has resulted, as a matter of fact, not only for man but also for his animal associates. Therefore experimentation is beneficial to all in the interest of better health.

As discoveries are made in the various realms of scientific medicine the American Medical Association, through its many publications, places the information on the desk of each of its 132,000 members. Furthermore, through its Bureau of Health Education, the Association answers the questions sent in by the public. It distributes authoritative reading matter to lay organizations.

Radio programs dealing with health and the prevention of illness are presented. Through its health magazine HYGEIA the Association offers information for the reading public. As discoveries are made in the future organized medicine will be quick to disperse this knowledge throughout the length and breadth of the land.

More and more attention is given to the preventive aspects of disease. This includes an appreciation of the nutritional requirements of the body, plus a number of other important necessities, such as rest, recreation and a healthy mental outlook. These factors represent some of the principle interests of the modern doctor. He studies the needs of his patients and reinforces body strength where the body may reveal a vulnerable point. Mild anemias that cause premature fatigue are readily correctible. Overwork, excessive indulgence of various kinds, unwholesome social relationships, all fall within the doctor's province.

The modern doctor is encouraged by medical schools and organizations to become more and more social-minded. The social atmosphere ofttimes predisposes to ill health. Because of the importance of this broad problem in modern industrial society, the American Medical Association has, through its Council on Industrial Health, been studying the conditions under which working people ply their trades. As these improve the health of workingmen must improve.

The American public should know that the Association has its own bureau of investigation. The Council on Pharmacy and Chemistry has a staff of expert analytical chemists who examine new medical preparations and apparatus. These examinations are made for the purpose of evaluating new products.

Unless the claims of the manufacturers are substantiated the Association withholds its approval. On the other hand, a preparation placed on the market for public consumption which is stamped "Accepted" means that under the strictest tests made by the American Medical Association corps of experts this preparation fulfills the claims of those who produce it.

The government has its bureau for investigating nostrums and patent medicines. American medicine frowns on secret preparations and looks with disfavor upon exaggerated statements of high pressure business concerns who would offer cure-alls for every known disease. It should be heartening to the public to realize that the government and the American Medical Association are cooperating in safeguarding the health of the nation.

Education of young doctors today has reached a high point of efficiency. This is due to the spectacular discoveries in the various fields of medicine since the turn of the century. Through the Council on Medical Education and Hospitals the Association is intent on encouraging medical schools and hospitals to include in their training programs instruction in these new phases of medical research. Here again "Accepted" carries the authority of organized medicine and is a stamp highly valued by training institutions throughout our great land.

Medical care for complicated conditions may be an expensive necessity. Organized medicine realizes this and is taking the lead in search for satisfactory methods which will meet the needs of all groups in the nation's population.

The Council on Medical Service of the American Medical Association has conducted numerous studies bearing on this problem. In addition, through its Department of Medical Economic Research, with a staff of highly qualified professional economists who, incidentally, are not physicians, unbiased and critical investigations are under way for the purpose of ascertaining the medical needs of various regions of our nation, and how they can be adequately met.

Organized medicine has always been a strenuous exponent of the highest type of medical service for all people, regardless of (*Continued on page* 718)

Leaf of poison oak or ivy

Poison oak and ivy are among the most brightly colored plants in the autumn woods but they pack a terrific wallop for the unwary.

HANDS OFF THOSE GAY AUTUMN LEAVES!

by ROBERT P. LITTLE

Leaves and berries of the poison sumac

THE city family who march proudly home from a day in the woods, laden to the eyes with garlands of poison ivy to festoon the house, are as familiar a part of American folklore as the Easterner and locoweed or the beginning mechanic and the left-handed monkey wrench. But some thousands of city and even small town families have burning memories to testify that it is no joke.

Poison ivy, poison oak and sumac actually are among the first leaves to turn in the fall, and the most brilliant. No foliage is more attractive, not sassafras and black gum or the aspen of the Rockies —not, that is, unless you know what it can do to you.

Poison oak and ivy are "nice" to look at—not to touch—most of the year, poisonous all the time. In summer, except in extreme drought, the green leaves have a high gloss that sets them apart. In early fall the leaves turn, frequently through a yellow phase, to a brilliant symphony of scarlet. But the fact that those leaves seem dry does not mean that they are harmless. Even the berries contain the "poison" and worse, it (*Continued on page* 710)

Is your Child Good?

by JOSEPHINE POYNTER

IF YOUR child is an angel this article is required reading for you. If your child is "good" some of the time you will find here a measure of support for your faltering conviction that, in spite of what the neighbors may say, Billy really is a well behaved child. In either case it should interest you to think for a minute or two why you get results from your parental suggestions sometimes and fail completely on other occasions.

Most children are betwixt and between, amenable and sweet one time and hostile and uncooperative the next. This is the normal behavior for them as they slowly accept and absorb the social amenities of our complicated world. They stomach what they can and reject the rest when the dose is too heavy—making life unpredictable and far from dull for the parents who hope to achieve a desirable product in the end, and who are, in the meantime, trying to provide thoughtful guidance towards the goal.

Of the unnatural children, either those who are invariably very, very good or those who are so bad they are horrid, the good ones bear the most watching. The naughty or rebellious children, difficult though they may be to live with, stand a fighting chance of coming through all right. They, at least, have the grit to protest vigorously against conditions that are intolerable to them. The meek, sweet type of child has already given up the struggle and is resigned to the bitter fact that he doesn't stand a chance against all the adults in the world and the demands they make of him. It isn't easy to inject spirit back into this lifeless attitude, but it can be done. It is the job of every mother whose child is dangerously good to reintroduce him to the idea of being normally naughty.

The danger lies in the fact that parents usually fail to recognize the harm that is being done to the child who concedes too easily. They innocently think that because he is quiet, he is happy. Then they boast to their friends, "You would never even know that Johnny is in the house. I just tell him to stay in his room and he plays there all morning."

Actually it is unfortunate that Johnny has accepted as final the command to leave his own mother strictly alone. Of course, if he pesters the life out of her with demands for attention in the afternoon, he isn't being harmed by being ignored during the morning.

But if he is always so docile, then he is failing to get what is rightfully his—a generous amount of his mother's attention. All children normally would rather be scolded than ignored. Many of them misbehave in order to attract notice if they can't get it any other way. But Johnny has given up all attempts, both positive and negative, to call attention to himself.

He will certainly have a miserable time as an adult, at the mercy of anyone who wants to take advantage of him.

Be honest and play fair with your child when he does give in easily to your requests. It is treacherously easy to fool yourself into thinking that he didn't really mind when you said that you couldn't take him to the park after all, or that he is busy now and would just as soon skip that story you promised him, or that he has forgotten the sorrow he felt when you threw away that dirty old rag he liked to take everywhere he went.

Many children are unable to express their disappointment or their misery—or perhaps they have experienced so much pain that they too humbly accept it as their lot in life. One really observant look at the expression in these youngsters' eyes should convince any skeptic that they do mind and they haven't forgotten. The fact that they do not make a protest only means that they are discouraged by the hopelessness (*Continued on page* 714)

A Healthy Start To School

by LEWIS J. BURCH

SCHOOL cannot be a fine and stimulating experience if a child is in poor health or has some physical handicap. Either may slow down his school work or be a contributing cause for poor personal and social behavior. A child who is unable to compete in the classroom and on the playground, for some physical cause, is not a very happy child.

If school is to be the natural and exciting adventure it ought to be, it will help your child if you meet his health problems as early and as practically as possible before school starts.

Of course your child's health has been a major concern from the moment he was born, but it is surprising, as time goes on, how easy it is to overlook a health difficulty just because you are with your child every day and so you do not see him as he really is. A complete check-up by your family physician is one safe step to take. Even if your child will not enter school until midyear now is not too early for an examination. During the examination extra attention can be given his eyes, ears and teeth.

Your doctor will look for infected tonsils and adenoids, and for nose and ear infections. He will test your child's heart, lungs, reflexes and muscle tone. He will also check his weight and height, and make inquiries about feeding and rest habits.

A blood count and hemoglobin test are suggested for the unusually pale child, or one who is tired all the time for no obvious reason. Proper treatment may bring color to little cheeks and more pep to a listless body in a matter of a few months.

If whooping cough, diphtheria or tetanus "shots" have not already been given, your doctor will surely recommend them. Ask for a Shick test to be sure your child is immune to diphtheria. Just to be on the safe side have a tuberculin test, too. It is always a good idea to take along a urine sample, so the examination can be complete.

This is a good time for smallpox vaccination Many states require a vaccination certificate upon entrance to school, so familiarize yourself with the laws in your state and get the business over with. Even if your child will not start to school for four years, it's not too early for this vital protection.

Often when a health problem does present itself, a few months may be sufficient to correct it. A special diet and more rest may pick up the underweight child. Liver "shots," an iron tonic or the new folic acid tablets, as prescribed by your doctor, may improve the appetite as well as the hemoglobin of the blood. Infected tonsils should be treated or removed with time enough for complete body adjustment.

Irreparable damage might result if parents, unaware that their child's heart was not normal, permitted him to participate in the rough and tumble of school play. Early knowledge will permit early coaching in the amount of exercise deemed safe, and the child can be taught his limitations.

Every child should have a thorough test of visual acuity before going to school, for any defect of vision can retard even a bright child. It is not neces-

Harold M. Lambert

You can help make school for your child the great adventure that it ought to be.

sary for a youngster to know the alphabet in order to be tested. Such a test should be repeated yearly thereafter, for a child's eyes change, and as school work progresses, his eyes are subject to more and more strain.

The following are a few symptoms which may lead one to suspect faulty vision; continuous blinking and frowning, frequent brushing of the eyes with the hands, holding objects close to the face to examine them, emotional upsets without apparent cause, a strained expression when trying to see distant objects, frequent headaches or nausea, and inflamed or watery eyes.

It is possible that none of these conditions are present and your child may still have an eye defect. Slightly abnormal vision can be as dangerous, in terms of eye strain, as a more serious condition. It is better to take no chances and have a check-up.

If it is found that your child does need glasses, then it may take a little time for him to become accustomed to them, and to taking care of them. If he is quite unconscious of his glasses by the time school starts, that will be one less thing on his mind.

From the time Sue was three, she began to be a behavior problem. She would pay no attention to her mother's commands, she was naughty, disobedient and subject to temper tantrums.

"I try to make her understand," her mother explained, "but Sue won't do anything I ask. If I scold her, she either runs away or has a tantrum."

On the suggestion of a friend, Sue was examined by a physician. The doctor found that Sue had an impaired auditory nerve, and that her hearing would never be normal. Of course, Sue did not obey and was emotionally upset, because she simply did not hear or understand what her mother was saying.

Checking in time is an important factor. These are a few symptoms that should make one suspect ear trouble: a vocabulary limited in comparison with other children of the same age, frequent requests for you to repeat your words, speech distortions, a confusion of like sounds, repeated failure to respond when called, and an inability to locate the source of sounds. Unexplained headaches, dizziness, sore or running ears, naturally call for immediate investigation.

Happily not all cases are as serious as Sue's. Yet no parent would want to neglect or fail to provide treatment for even a slight hearing defect. So much of a child's success in school depends upon normal hearing that no chance should be taken. Don't wait to hear the doctor say, "If I had seen him a year ago, I could have saved his hearing."

Many children are absent during their first year of school because they have trouble with their teeth. This is a period when children lose their upper and lower incisors, and when (*Continued on page* 709)

by VIRGINIA RISHEL

WAR ON POSTWAR PESTILENCE

AFTER the first World War one epidemic after another swept the helpless Continent. Influenza, against which medical science then had no weapon, swept the world.

World War II made that first world war look like a backyard battle. An UNRRA medical officer, whirled by air from the United States to Poland, took one long look, and then wrote home:

"So this is Warsaw? I don't believe it. They couldn't tear up a place like this. Health and sanitation facilities are completely disrupted. There are no sheets—patients lie in the straw. Many doctors have no instruments at all.

"Twenty-seven babies of every 100 die before they reach the age of 1 year. In some sections, 50 babies out of every 100 never celebrate their first birthday!"

Under the cascading rubble of Europe's broken cities, a dozen potential epidemics simmered. A blaze up of contagion anywhere, with no means of control at hand, and with millions of refugees on the move, could be a lighted match in a tinderbox.

Yet, in the full two years since the end of World War II, there have been no runaway epidemics in Europe, and only one disease, cholera, has reached epidemic proportions in the Far East.

This achievement is the result of one of modern history's happiest triumvirates: the new methods developed by medical science between the wars, their bold use by the Allied armies and the now defunct UNRRA—and luck.

The new products included DDT, death warrant for insects, and sulfas and penicillin. DDT stopped typhus dead in its tracks and reduced malaria in Greece to its lowest incidence since classical times. The sulfas and penicillin spectacularly cured and thus curtailed the spread of dysentery, venereal disease and a plethora of other infections.

The health staffs of the Army and UNRRA went into action before the guns ceased firing. The Army gave medical care to the populations of the villages they liberated, and to the enemy countries they occupied. UNRRA set on their feet the health departments of thirteen of the world's most devastated and disorganized invaded nations, and advised them how best to use both the new and the familiar supplies that began to arrive. UNRRA's professional medical staff was tiny—only 1200—highly trained and international in complexion. But its supplies were a cornucopia of health—200,000 long tons of everything from chlorine to x-ray apparatus, from hypodermic needles to hospital beds. Only in the Displaced Persons camps did UNRRA nurses and doctors diagnose, prescribe and give bedside care. Elsewhere they counseled and organized and assisted.

Luck did its share—and a great share it was—in the absence of influenza in the severe epidemic form. The flu that rocketed around the world in 1919 still baffles medical science. Some authorities are now convinced it was a virus flu, kin to today's common types. The laboratories of the Rockefeller Foundation have developed a vaccine which, modified and tested by the Army, provides 70 per cent immunity against two types of virus flu. It is produced in eggs, and is ordinarily potent for only a few months. Scientists say frankly that had flu of the virulence and velocity of the 1919 culprit got a good toehold anywhere, an epidemic would have been hard to stop. Even today, in the United States, bountiful land of doctors, laboratories and henhouses, a flu epidemic could only be slowed down—not shut out.

Of the epidemic diseases that did flare up in Europe after World War II, louse-borne typhus made the most formidable threat. It erupted in a

number of the liberated countries, where "no soap" was far more than a wise crack—or an inconvenience—and among the DP's. It was brought under complete control by the mass use of a 10 per cent DDT powder, a dusting gun, and a streamlined technic that made it unnecessary for the dustee to undress.

Instead the powder was simply shot down his shirt and trousers, front and back, and up his sleeves. A single dusting required about two minutes and two ounces of powder, and the dustee was deloused for several weeks. In the DP camps refugees who had not had an uninterrupted night's rest in years called DDT their "sleeping powder."

The conquest of typhus can best be told by figures from two central European countries where the great World War I epidemics blazed up. In Poland, there were less than one-eleventh as many cases, while in Yugoslavia, where 150,000 died in six months in the first war, the cases dropped from 50,000 in 1945 to 3,000 in 1946 under a DDT and dusting gun attack started by the U.S. Typhus Commission and expanded by UNRRA.

Malaria was met by intensive campaigns in Greece and Italy that prove the ancient scourge

Seldom is there drama in something that didn't happen. Yet the fact that pestilence did not surge across Europe in the wake of World War II is not only one of the most dramatic, but the most hopeful stories of our time.

can now be controlled at a cost within the reach of any country. With a population of only 7 million, prewar Greece averaged from 1 to 3 million cases of malaria a year, and consumed one-fourth of the world's total production of quinine! During the war, control measures were abandoned, quinine cut off, and drainage pumps and canals destroyed. Malaria vied with famine as Greece's great debilitator.

Shortly after UNRRA moved into Greece on the heels of the retreating Nazis, its sanitary engineers worked out with the Greek government a breeding season blitz against the malarial mosquito. Their weapons were DDT in solution, ten airplanes and a large number of hand sprayers. The DDT and sprayers were sent from village to village where, with thorough training and supervision, the delighted inhabitants took the equipment and sprayed the walls of houses and outhouses, and the nearby pools. Meanwhile the ten planes swooped low over swamps and other mosquito breeding grounds spreading a fog of DDT. In a few weeks both the ground and air spraying were repeated all over again.

The results were just short of miraculous. Mosquitoes, along with assorted flies, fleas and cockroaches, almost disappeared. So did malaria. An energized Greek people faced up with more hope to their giant reconstruction task. Even the cows, free from flies, began producing more milk.

Italy was the proving ground for the hand spray. It was used in several malarious provinces to spray interiors of houses alone, and with almost as much effect as the full Greek campaigns.

Two epidemic diseases, typhoid and diphtheria, surged up dangerously in Central Europe, but are now relatively well under control. Typhoid was greatly feared because of shattered water and sewage systems, but as these systems were patched up and supplies of chloride of lime, chlorine and chlorinators arrived, typhoid was stymied. Vaccines were also widely used.

A diphtheria groundswell began twenty years ago in Germany and overflowed into neighboring countries as they were invaded. Great quantities of toxoid pushed it down in most of Europe by the spring of 1946, though a hard core still remains in Germany.

Smallpox never really got a start, mainly because of the prewar, Continentwide immunization program. Vaccines were flown into trouble spots as they appeared.

Inoculation was also an important factor in preventing many other diseases besides typhoid, diphtheria and smallpox. Sometimes, however, it was almost harder to get the vaccine into the arm of a patient than it was to get it across the Atlantic. This was especially so in the DP camps, where the Nazis had made a hypodermic needle synonymous with strange and perhaps horrible pain, and then death.

Everybody knew of someone who had been a Nazi guinea pig, on whom a hypodermic needle had been used. They'd never been seen again. Children, who had lived most of their short lives in the shadow of these stories, were particularly terrified, and they would struggle and plead, "Nein, nein!" It was often days before the camp health staff could win their confidence enough to proceed with the inoculation.

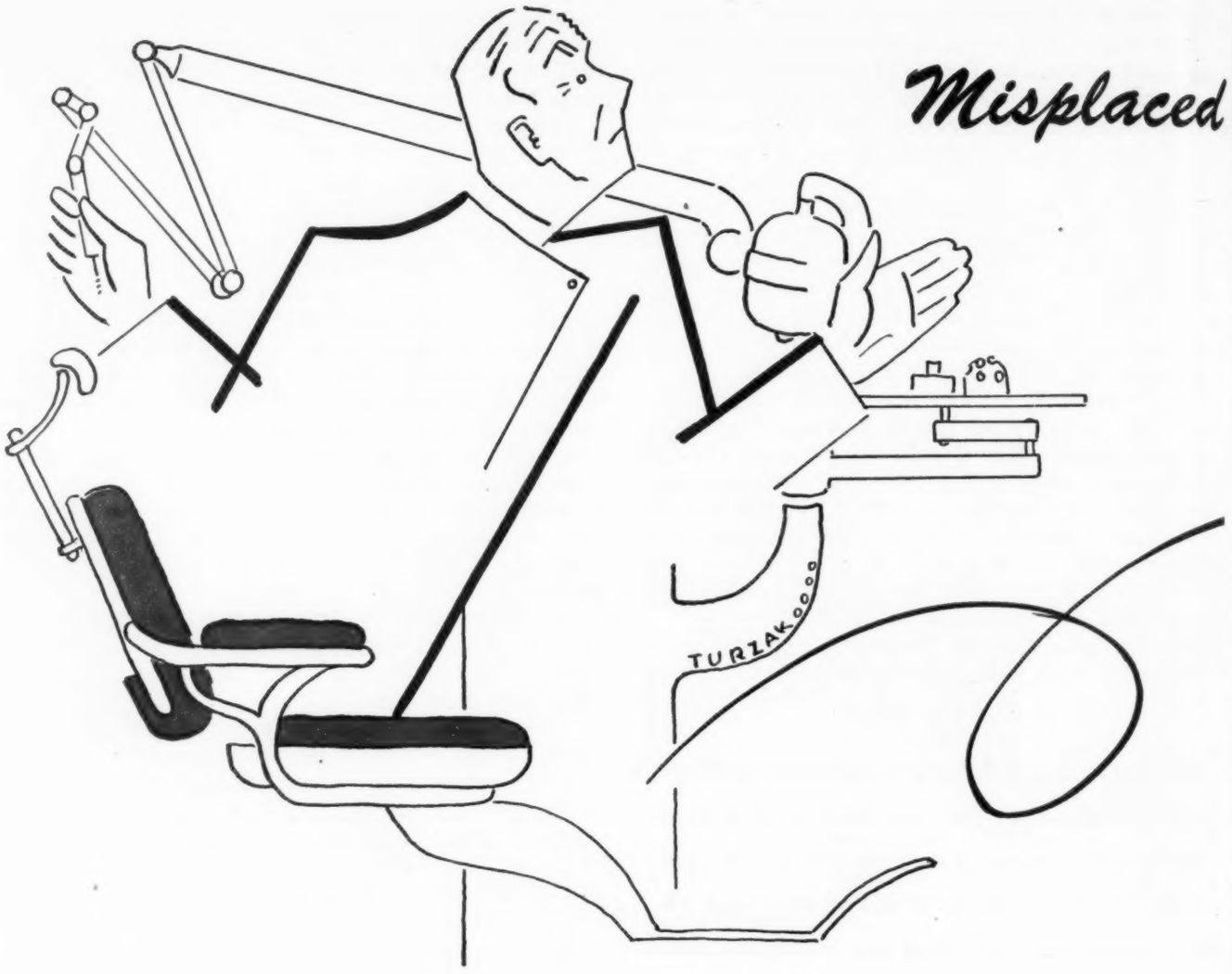
Bubonic plague, the terrifying "Black Death," which down through the years has killed millions, was swiftly controlled when it made a brief appearance in Italy. Plague has never had any respect for boundaries—or oceans. It is carried by rats and spread by their fleas—and rats need no passport. They climb up the ropes of a ship rocking at a dock, or infest cargoes about to be hoisted into the hold. It was to check the round the world voyaging of this dread malady that the first international quarantine controls were established many years ago.

In the summer of 1945 bubonic plague was reported in Malta. Suddenly a rash of cases broke out among dock workers in Taranto. Half of those who became ill died.

DDT for killing fleas, plague vaccines, rat poisons, cyanide for the ships and an expert who had exterminated eight million rats in eight months in England, all were put promptly to work.

The technic of the expert was simple. First a detailed reconnaissance was conducted to locate the largest rat encampments (*Continued on page* 716)

Misplaced



The very young person hasn't a chance to show his mettle when Mother simply won't let him stand on his own feet.

"I WANT my mama!" whined Johnnie. Mrs. Brown laid aside the magazine that had been purposely called to her attention, rushed into the operating room, grasped Johnnie's hand and exclaimed, "Did the doctor hurt my precious little man?"

As always misplaced sympathy worked like a charm, a thoroughly malevolent charm. Johnnie became rigid as a poker and screamed, "I don't *want* my teeth fixed!"

Mrs. Brown was called aside and informed that there was no use trying to do any further work on Johnnie's teeth that morning. She, however, was of a different opinion: inasmuch as they were then in the dental office, the work would be done—*she* could handle Johnnie. Wasn't she a registered nurse?

Johnnie also had an opinion of his own, for after his mother's coaxing and threatening failed to open his mouth and she attempted to use force, he bit her finger. Mrs. Brown's face became crimson and, screaming, "You nasty little brat!" she cuffed her little man over the ears.

Johnnie let out another wail and Mother shook him. The argument finally ended in a draw; the contestants were exhausted. Both left the dental office in sullen silence and Dr. Anthony remarked to his assistant, "Well, we'll never see them again."

But in this reckoning he had failed to take into consideration Mr. William J. (Bill) Brown.

Bill Brown had always seemed to be such a nice chap when Dr. Anthony, as an insignificant substitute, had known him as the star tackle on the varsity football squad, of the institution where they both got their degrees.

That evening as the doctor was about to leave his office, Bill came rushing in with the same wild glint in his eye that Dr. Anthony had seen many times when the crowd was chanting, "Hold that line!"

That look had always been a sad omen for an adversary and the doctor shook in his boots, but he nonchalantly saluted the visitor, "Hi, Bill! Gosh, you have the same look in your eye as that day you blocked the kick, recovered the ball and convinced the sports writers that you really were All-American."

You could practically hear the rustle as Bill's ruffled feathers dropped into place. He grasped Dr. Anthony's hand and informed him that it was

Sympathy

by P. H. BELDING

surely fine to see him again. Dr. Anthony inwardly sighed with relief and he and Bill settled down to talk over old times.

As Bill was about to leave the office, he, in an offhand manner, suggested that the doctor had had a little trouble with his son that morning. Dr. Anthony was thoughtful.

"No, Bill," he said, "I don't think so. The boy was all wrought up as you often were before a football game." (Many a time Dr. Anthony had seen Bill actually cry before the start of a big game.)

"The trouble is we just didn't get started, and I know that if he ever does start with anything, he will come through with flying colors." And Bill knew he would, too.

An appointment was arranged for the following week. The boy was to be dropped off at the dental office when Bill went to work. Dr. Anthony explained to the father that if a child was to behave like a grownup he must be used like one, and that the child really didn't desire sympathy but wanted a chance to build his own morale.

The following week the child was brought to the office by his father who, with a wink, deserted the youngster almost before the boy knew what was happening. When it finally dawned on Johnnie that his father was really gone, he let out a wail and would have dashed out of the office if the way had not been blocked.

Johnnie immediately began to snivel and pout, and glared at Dr. Anthony with a sullen expression; but when the doctor opened an old university annual and asked him who was the giant dressed in football togs, he stuck out his chest and replied, "That's my daddy."

The conversation passed rather rapidly from his father to football in general, and then to what could be done to prevent teeth from decaying. Without Johnnie knowing just how or when it had happened, he had seated himself in the dental chair and several cavities were prepared and filled. In fact, he was as good a patient as Dr. Anthony had ever had in his chair.

Strange as it may seem, Johnnie's conduct was not exceptional. Many dentists would rather work for children than adults, providing parents will allow them to handle the children in their own way.

A few nights later, Dr. Anthony chanced to meet Bill Brown at an American Legion gathering and, much to the doctor's surprise, Bill greeted him with as much enthusiasm as if he were some high potentate.

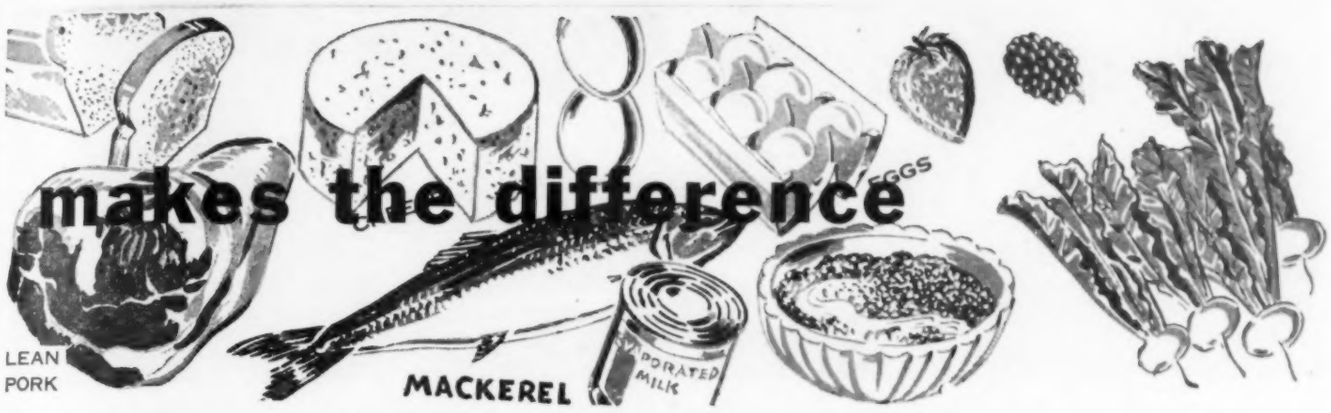
Bill would not take no for a reply; the doctor and his wife just had to have dinner with them the following Saturday night. The invitation was accepted with some misgivings, for Dr. Anthony was not at all certain (*Continued on page* 706)

FOOD

1. Food makes the difference in these twin rats. The scrawny rat (left) ate only meat, potatoes, bread and butter. Its healthy twin (right) ate the same food plus milk and vegetables. White rats are used for nutrition studies because they eat much the same foods as human beings. Since they grow 30 times as fast as children they quickly show the effects of good and bad diets.

2. Growth is a measure of good nutrition. At 4 weeks a well fed rat weighs 47 grams, at 12 weeks four times as much. Photos are from a series of charts published by the Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture.

3. Protein builds muscles, blood; is essential for growth. The underweight rat at left ate good foods but limited protein. The second had enough protein but not in the right combination. The big fellow at right had sufficient protein in sufficient variety.



4. Calcium builds bones and teeth, and is needed by all tissues of the body. The short, stubby rat on the left has poorly formed bones. The other rat, fed an adequate amount of calcium, has attained properly developed bone structure and is of normal size.

5. Iron helps build red blood. The 8 month old rat (left) has pale ears and tail and weighs only 109 grams. The other rat had plenty of iron. Though only 5½ months old it weighs 325 grams. It has slick fur and its blood has 3 times as much red coloring.

6. Vitamin A is needed for growth, healthy eyes, skin and other tissues. The sick-looking rat (left) has rough fur and an infected eye. The other rat, which had sufficient vitamin A, is not only wide-awake and vigorous, but has fine fur and bright eyes.

7. Vitamin D helps build bones and teeth and prevents rickets. At left front and side views show bow legs and a poorly shaped body of a rat deprived of vitamin D. On the right is the same rat with plenty of vitamin D—strong and straight and of full size.

8. Thiamine (vitamin B_1) helps the body cells use the carbohydrate foods. This queer looking rat has lost the ability to coordinate its muscles. At right the same rat, 24 hours later after receiving a food especially rich in the vitamin, has recovered.

9. Riboflavin promotes health by helping body cells use oxygen. This sick rat (left) is underweight and losing hair expecially about the head. At right the same rat, after receiving a food rich in riboflavin, has gained weight and has a new growth of fur.

10. Ascorbic acid (vitamin C) helps build healthy gums, teeth and bones. The guinea pig (left) has scurvy. Note the crouched position because of sore joints. Pig (right) fed ascorbic acid is healthy and has thick smooth fur. Full sets of the charts can be obtained at 75c each by writing to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

WATCH YOUR STEP

GRANDMA AND YOU, TOO, GRANDPA!

DEATH NOTICES
FALL FATAL TO WOMAN—
Mrs. Mary L. Kindly, 77, of 7419 S. Emay Av., died yesterday at St. XYZ Hospital of injuries sustained when she tripped over a rug in her home last Feb. 21.

by PHILIP LEWIN

THIS inconspicuous notice, which appeared recently in a Midwestern newspaper, provides a brief and important comment on one of the little noticed aspects of growing old. There is positive proof that people are living longer these days. In 1890 only 2.6 per cent of the population were over 65. Today the figure is more than 8 per cent. While this is, of course, a great advantage for all of us, an aging population sets up certain medical problems which have yet to be properly solved. One of them is the increased number of diseases typically seen in older people—heart and kidney disease, cancer, diabetes and others. Another, just as important, is the problem of accidental injuries—fractures, sprains and strains—which occur so frequently in old people.

One hundred thousand people were killed and over ten million injured in accidents in the United States in 1946, according to reports from the National Safety Council. One out of every thirteen persons in the nation suffered a disabling injury. Thirty-four thousand people died in home accidents, and five million suffered disabling injuries due to accidents in the home.

A fair share of these deaths and disablements occurred in people over 50 years old.

Why should older people be particularly vulnerable to accidental injury? That's easy to answer. Elderly persons do not see, hear or coordinate as well as younger people. Lessening of these faculties is merely one of the inevitable accompaniments of aging. Old people do not concentrate as well as young people. They are likely to be thinking of the past while they are walking down stairs. Their sense of balance is below par. They are not so resilient as they once were. When an old person starts to fall, he falls, whereas a younger man might be expected to right himself in time to prevent injury.

Because the calcium content of our bones decreases as we grow old, the bones of old people are more vulnerable than those of young persons, and for this reason the aged are particularly susceptible to fractures. Osler said that "a man is as old as his arteries." I say that "a man may be as old as his arteries, but he must act as old as his bones and joints."

Old people die of accidents which young people might survive with little trouble. It is more difficult to treat the injuries of old people. For one reason, the damaging force continues longer. For another, old people cannot be kept at complete rest for a long time because of the danger of pneumonia or impairment of the kidney and digestive functions. They cannot take the shock of injury and manipulation or operation as well as younger people.

Among the frequent injuries of old people are fractures, sprains and dislocations of the hip, back, hand, foot and ankle, shoulder, knee, elbow and neck. Ruptures of various muscles and fractures of the skull are common. Fractures, dislocations, sprains and strains are especially important because deformities and disabilities frequently follow them. Direct injuries, twists and crushing injuries often result in chronic conditions. Arthritis may set in after a joint injury.

Falls are responsible for about half of these injuries.

The only way to reduce the number and seriousness of such injuries is to be constantly aware of where dangers lie. The hazardous areas have been well mapped out. The largest number of accidental injuries occurs in the home. Since old people are likely to spend a large part of their time at home, home injuries are particularly important to them. What, then, are the danger (*Continued on page* 722)

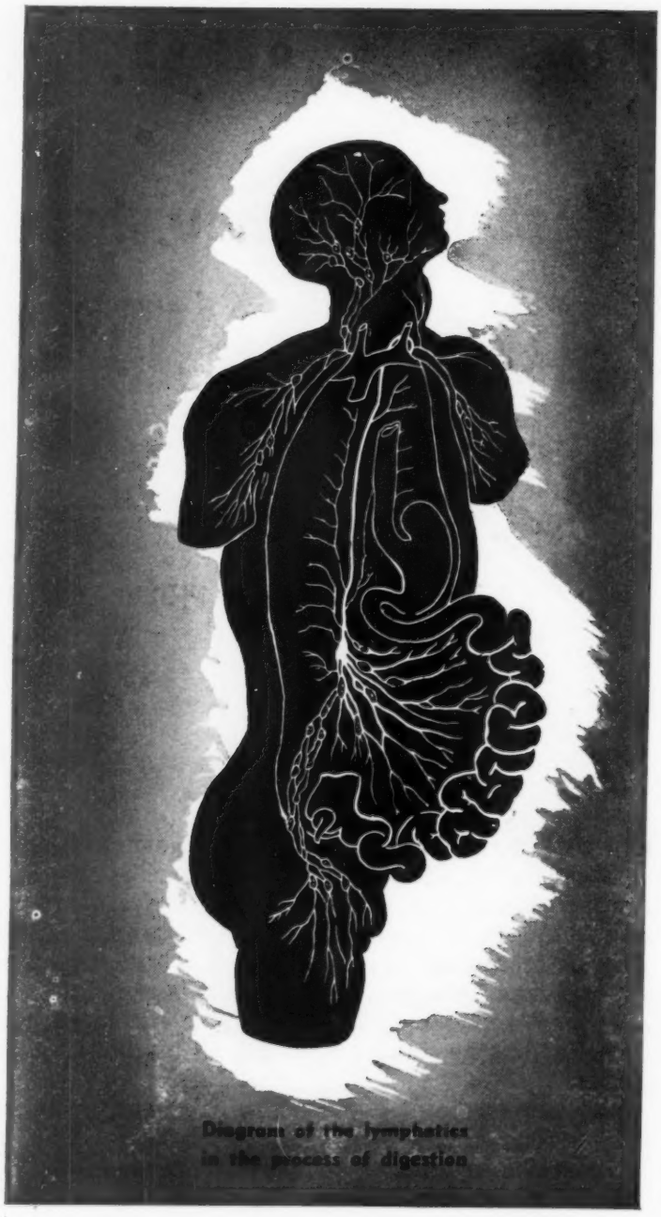


Diagram of the lymphatics in the process of digestion

The Riddle

by HENRY MORTON ROBINSON

OVER the entire human body, permeating the skin and the tissues beneath, stretches a remarkable network of tiny, transparent vessels, somewhat like knotted lace in appearance. This is the little known lymphatic system. Through its microscopic conduits flows a mysterious, straw-colored fluid—the lymph—which in its leisurely course performs marvels of biochemistry for the maintenance of your health.

You've probably witnessed one small miracle of the lymph without knowing it. A cut or scratched finger was neglected for a day. Then a droplet of pale yellow fluid oozed from the cut. This was the lymph, loaded with specialized cells, augmenting the warrior action of the white corpuscles in killing off the disease organisms.

When infection penetrates deeper the protective action of the lymphatics is even more dramatic. The invading organisms are caught up in this independent system and carried to the nearest lymph node where another attempt is made to trap and destroy them.

These lymph nodes, which vary in size from a mustard seed to a large lima bean, dot the lacelike network of the lymphatic system. Within them nature performs one of its most vital protective functions: the production of lymphocytes, a type of white corpuscle that is an important disease-fighting unit of the blood.

The lymph nodes are located abundantly throughout the body. Larger nodes are clustered in the neck, groin, armpits, and intestines. These mechanical filters are designed to trap not only bacteria but any cell debris and foreign matter that might be harmful. One physiologist aptly calls them "dustbins of the body."

Trapping debris and combating infection, however, form only a small part of the lymphatics' job. Life itself depends on this enigmatic body fluid which closely resembles blood in chemical composition—and yet emphatically is not blood. The lymph derives from the blood system and passes back into it eventually. But in the interim, employing its own private network, it performs a miracle of body economy, a physiologic duty very much its own. That duty is to salvage vital proteins—the very building blocks of which our body is made—which would be lost entirely were they not thriftily gathered up by the lymphatic system. Greatly simplified, here's what happens:

Under pressure from the heart, fluids seep through the porous walls of the capillaries—the tiniest blood vessels—carrying nutriment to tissues and absorbing waste products. These fluids consist of molecules of protein, salts and water. Swiftly the salts and water pass back into the veins and race back to the heart.

But the proteins cannot directly reenter the venous system. Here a potentially awkward situation develops. If these proteins accumulate, the superfluous concentrations may damage surrounding tissues. Moreover they are sorely needed for redistribution to other parts of the body. At this critical juncture, the lymphatic system comes into play.

With blotter-like action, the lymphatics soak up the protein-laden filtrate. Through its own circulatory system, quite separate from the veins and arteries, the lymph now proceeds toward the center of the body. In the intestines the lymph vessels take up an emulsion of fats from foods that have been transformed by the digestive juices.

Now the lymph, laden with fats and proteins, is ready to return to the blood stream. Tiny flaplike

valves on the interior walls of the lymph ducts prevent any backward movement of the fluid. The lymph can flow in one direction only—towards the heart.

But unlike the blood stream, which depends on the pumping action of the heart, the lymph has no driving force behind it. What then propels it on its way? The progress of this strange life-fluid depends solely on the body's muscular and breathing movements. For example, lymph ducts twine themselves around the muscles of the arms and legs: when we move, these muscles contract and expand, thus exerting a kind of squeezing pressure on the lymph vessels.

In the intestines this task of propulsion is enormous. The emulsion of fats taken up by the lymphatics is very heavy. A powerful force is required to squeeze or draw it upward. Now occurs a marvel that ranks high among physiologic wonders. The lymph vessel winds itself around the mightiest of arteries—the aorta—and utilizes the powerful pulsations of that huge blood vessel to propel the lymph upward!

Usually the lymph current moves at a rather sluggish pace, but it can be whipped up—with definite advantages to health and body tone—by exercise and resultant deep breathing. Where exercise is not possible or desirable, lymph flow may be benificially simulated by massage.

At a point slightly above the gateway to the heart the main lymph stream pours into a major vein. One-tenth of a second later it is pouring into the heart for redistribution throughout the body. Thus the choicest products of digestion have been gathered up and delivered safely to the blood stream in a roundabout and biologically ingenious manner—by the lymph.

But all along the line, before finally entering the blood stream, the straw-colored fluid has passed through the myriad wayside filtering stations, the lymph nodes. And because these glands are a catch-all for harmful bacteria they are subjected to many severe trials. For example, an infection of the hand may cause painful swelling of the lymph glands in the armpit; an infection of the foot or leg may produce an inflammation of the glands in the groin. This is nature engaged in the death struggle to annihilate the invading disease organisms. Unless the battle is won, the bacteria will pass on to the blood stream, causing septicemia, or blood poisoning.

Sometimes the trapped bacteria infect the lymph nodes, causing acute inflammation and abscess formation; then it may become necessary to remove the infected glands surgically. The lymph nodes filter out cancer cells; but then the glands themselves may become the site of new malignant growths. Thus in the treatment of cancer, whether by surgery or radiology, attention must be directed also to the lymph glands that drain the area of the primary growth.

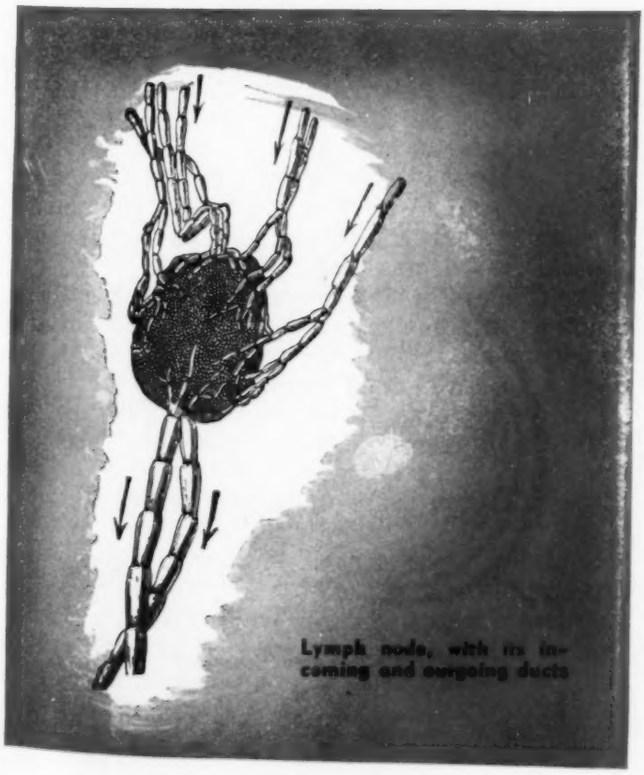
The lymphatic system is also subject to diseases of its own. In elephantiasis, for example, a thread-like parasite attacks the lymphatic tissue and renders it incapable of draining off the fluids that collect in the tissue spaces. The result is the familiar symptoms of swollen, water-logged lower limbs and coarsened skin.

But the miracle of the lymph in the normal body suggests a question: What would happen if the vital fluid were prevented from returning to the blood?

Scientists found a definite answer in the case of a young woman who had been stabbed in the neck. The wound severed the main pathway of the lymph stream on its way back to the heart. The patient suffered serious loss of weight, and was losing ground so rapidly that a fatal outcome seemed inevitable. Then the lymph lines were surgically repaired. Again the lymph flowed back into the blood stream. Within a few weeks the patient regained her weight and was able to leave the hospital in the best of health.

Silently, invisibly, the lymph river winds through our cells and organs, bathing them in a vital alkaline fluid. Thus lymph is seen to be one of the most remarkable of the adaptive mechanisms that enable the human body to maintain its interior balance and economy. It is an instrument of survival, versatile and awe-inspiring as the blood from which it springs, and which, by the strangest of physiological processes, it nourishes and sustains.

of the Lymph



Lymph node, with its incoming and outgoing ducts

Remedying DEFECTIVE SPEECH *In Childhood*

DON stood before the kindergarten class and tried to tell about his trip to the circus. He had been thrilled by the bear that danced and by the trapeze performers. Only that morning he had reviewed the show enthusiastically for his parents at the breakfast table. But now, before forty classmates, Don couldn't say a word. He stood on his right foot and rubbed the toe of his left shoe against his ankle.

"I saw an elephant," he finally managed to blurt out. That was all. Alice, who sat in the second row and played with Don at recess, wanted to know whether a man had ridden the elephant. Other children in the room were eager to hear about his experiences. But Don had no more power of communication than if he spoke and understood a different language from that of his classmates.

Several years later in high school, Don was bright in his studies and popular among the students. But he could never stand before a group, as its leader, because he was ill at ease and unable to express his ideas clearly. His friends supported him for class president, but he couldn't stand before a student assembly even to make a brief announcement, much less to outline a platform. Either his words would run together and come out jumbled, or he would be come so frightened he couldn't think of anything to say.

Out of school and in the business field, Don might have worked into a good position. He had original ideas that could have made money for the company. But he could never approach his employer with constructive proposals because he always lapsed into his old speech difficulties.

Don's defect was not a serious one and could have been corrected with proper attention. Had he possessed great self confidence, he might have become a business executive. Instead, he is still working under other men with no greater planning or reasoning ability than his own. The difference is that the other men, the executives, can talk clearly and say what they mean.

Even if Don's case were the only instance of a child retarded by lack of communicative skill, his would be one instance too many. Personnel in the University of Missouri Speech and Hearing Clinic in Columbia, Mo., like other similar groups in the country, are demonstrating that children such as Don can be helped.

The Clinic, sponsored by the University Department of Speech and Dramatic Art and the Adult Education and Extension Service, provides service in the diagnosis and treatment of children with speech handicaps in Missouri. Other states have similiar speech correction centers.

THE Clinic at the state university in Missouri has diagnosed the speech problems of about two hundred children since last January. Those needing clinical help are reached by two methods: parents may bring a child to the Clinic offices in Columbia by arranging in advance for an appointment; or the Clinic staff may go out to the community requesting attention.

When the latter procedure is followed, the traveling clinic usually takes in from 25 to 30 cases as a maximum load. A town or county having a number of cases notifies the Clinic, and an agreement is reached on time and place.

The Clinic offers its services free. The Adult Education and Extension Service of the University has helped finance trips to various communities by defraying food and transportation costs.

Usually requests for service come to the director of the Clinic from the superintendent of schools or a welfare agency in the city or county. In a hypothetical case, the procedure would go something like this:

Superintendent Evans of Mitowne requests that teachers in the area send to the Clinic, to be held in a central place, all children whose speech seems defective. Keith West, first grader, has a slight lisp; and his teacher, Miss Grove, suspects he may be hard of hearing. She and Keith's mother accompany him to the central meeting because both adults will

be able to contribute to the case history and background. They, in turn, will obtain information about the boy's problem and suggestions for its remedy.

Upon entering the Clinic, Keith enrolls; and his mother and teacher outline certain information about him. First Keith has his hearing tested with an audiometer. By this "sweep test," it is determined whether his hearing is within broadly normal limits. Since there is some doubt in Keith's case, he has a complete hearing test. The results show he has no actual deficiency in hearing but that he does not always pay attention to what is spoken to him.

Keith is next ushered into another division to take his articulation test. His examiners check his speech to learn which sounds he uses incorrectly or omits entirely. They know that "l," "r," "k," and "g" are sounds most likely to have substitutions made for them. Keith's voice, rhythm, and rate of speech are also evaluated during this test.

ALL of the information on his hearing, voice, speech rhythm, rate, and articulation are gathered. Keith goes with Miss Grove and his mother to a diagnostic conference. There they attempt to determine the cause of his speech trouble. All material is used—observations made during the examination, as well as the facts available from Miss Grove and Mrs. West.

When the "whys" of Keith's case have been considered from every possible angle, the question of a solution arises. This is the most valuable part of the conference. Drill materials are provided in the form

by WANDA LAND

of reading matter or gamelike devices. The examiner offers specific suggestions to Keith's mother and teacher. She tells them the sort of practice he needs, what attitude they should maintain toward his trouble, and how long each day he should practice the drills.

On record in Keith's school will be a brief report of the Clinic's findings and of its recommendations for correction. These are retained with his transcripts and other records for future reference.

Had Keith's difficulty been a more serious one, he could have returned to the Speech and Hearing Clinic in Columbia for additional conferences. Supplementary drill material and suggestions could be sent to Miss Grove and to Mrs. West. If the Clinic examiners had considered Keith in need of special attention of schools for the deaf, special education or other consultation they would have offered information about referral agencies.

An especially valuable contribution of the Clinic is that the parents and teachers are made aware of required remedial procedures for speech-handicapped children. Mrs. West might have fearfully postponed an examination of Keith's defect because of unnecessary worry that his trouble might be more severe than it actually was. By facing the problem objectively, she obtained skilled treatment for her son and lifted him and herself to new levels of confidence.

IN some instances, the best treatment for a child's speech disorder is to work upon it indirectly, according to Dr. Charlotte G. Wells, director of the Speech and Hearing Clinic. This policy is usually wisest in the case of stammering, she explains. A mother may call stuttering Judy to her side and patiently ask her to repeat more slowly the idea she has just so painfully stammered. Judy may be only a "pseudo-stutterer." She becomes conscious of her "difference" only when mother has called her attention to it, and the minor problem becomes outlined in red. Let alone, Judy could easily have overcome pseudo-stuttering in a short while. Now she has "learned" a speech defect.

Children are great imitators, as anyone knows who has heard a little girl call her doll "Holyghost" one day and "Cityhall" the next, parroting the words without any idea of their meaning. Parents can take advantage of this tendency by offering correct patterns for the little mimics to follow. Dr. Wells explains that a child learns to speak as he hears. The boy born in a foreign land but reared by foster parents in this country does not automatically speak the language of his true parents! He learns his speech from his environment.

"The influence of the parent on the child's speech habits is basic," Dr. Wells continues; "the strongest influence is at home since the child learns to speak primarily during the time he is living in the home and going to school. But most children have fairly well developed habits of speech before they ever enter school."

Thus, children are learning speech habits from parents, neighbors, and playmates. Incorrect habits are usually more easily corrected if caught early; for the longer one continues doing a thing wrong, the harder it is to change to the correct way.

BAD speech habits are sometimes broken in comparatively simple manner. Some psychological factor may cause a child to cling to the speech defect he has. Perhaps this is the only method he knows to gain the attention he craves. Consider the case of Allen, 5, who continued to talk baby talk although he was ready for kindergarten. He was also a crybaby and thumb sucker. Allen's mother used an indirect remedy to help the little boy. She set aside a small room entirely for Allen and his possessions. This was possible, even in a day of crowded housing conditions, by using resourcefulness and ingenuity in planning the arrangement of the home. Allen was immediately delighted with his new room and so proud of showing it off to everyone that he willingly relinquished his "baby" ways, and entirely forgot about his former habit of baby talk.

In diagnosing a case such as Allen's, the Clinic does not hesitate to call on other agencies on the University campus for additional tests deemed advisable. The particular (*Continued on page* 719)

Undulant Fever

PART I

TWO decades ago undulant fever was considered a rare disease in this country. As the years have passed, it has assumed larger and larger significance, until at the present time it may stand as high as fourth among the various communicable diseases, probably being exceeded in importance only by tuberculosis, syphilis and gonorrhea.

With the great strides being made against these three diseases, it is not unlikely that a few more years may see undulant fever, (more technically known as "brucellosis") in first position. It is the purpose of this article to help inform the people concerning this rather poorly understood infection.

A brief history of the disease will be of value. Undulant fever, also called "Malta fever," has long been known in the Mediterranean countries as a disease which causes severe discomfort and much disability, though it rarely causes death. Two generations ago it was known to be caused by the drinking of milk from infected goats, and the causative organism was isolated in 1887 by David Bruce, a British military surgeon, after whom the germ (brucella) and the disease (brucellosis) are now named.

In 1897 Bang, a veterinarian of Copenhagen, isolated a germ from cattle which was demonstrated to be the cause of contagious abortion in cattle. This organism is still known as "Bang's bacillus," and the infection in cattle is often called "Bang's disease."

In 1914, Traum, a veterinarian at the University of California, was the first to isolate brucella organisms from swine. It was not then known that man could contract the disease from infected cattle or swine, and there was no suspicion that this organism was closely related to the germ studied and described by Dr. Bruce.

In 1918 Dr. Alice Evans, working in the United States Bureau of Animal Industry, and more recently for the United States Public Health Service, found that the two organisms mentioned were indistinguishable by the laboratory methods then at her disposal. She suggested that inasmuch as "Bang's disease" of cattle was common in this country and that the germ was at least very similar to the causative agent of Malta fever, which was transmitted from goats to man, it would be very much to the point to look for this disease in human beings here in the United States.

Soon human cases began to be reported. As physicians became better informed, and as diagnostic tests were perfected, it was found that there is a great deal of it in this country. On further study the disease proves to be increasingly alarming. In one form or another, it is apparently common, particularly in farm folk, veterinarians and men working in the meat packing industry.

It is understood now that the causative organism exists as three distinct but closely related species: the caprine or goat strain, *Brucella melitensis*, the bovine or cattle strain, *Brucella abortus*, and the porcine or swine strain, *Brucella suis*. All of these organisms can be transmitted to other animals besides the one associated with their names. The symptoms and effects on the tissues vary widely in different animals, making it necessary to describe the disease in each, rather than in general.

Human beings can be made sick by any of the strains. The swine and goat strains are the more severe. In recent years we have come to know that the swine form is also the most common in human beings, particularly farmers. The goat strain is not common in this country, but there is evidence that it is increasing.

Little heed has been given to the goat as a spreader of infection because comparatively few goats are used as milk animals in this country. To the extent that a community raises goats, it is important

by THURMAN B. RICE

(Brucellosis)

that care be given to the matter of preventing this infection because it certainly does exist. Goat milk as well as cow's milk should be pasteurized before being drunk or made into cheese.

The goat's form of the disease is usually due to that species of the germs known as *Brucella melitensis* (literally, the "Malta" strain), but the goat can also be infected by the strain which is more commonly seen in hogs, *Brucella suis*. This form of the infection will be discussed in more detail as we consider the disease in swine. There is little doubt that the caprine strain of the disease is (or may become) more important in this country than we have supposed.

About twenty years ago we began to hear of epidemics of undulant fever arising from the use of unpasteurized milk. For example, a fine dairy herd owned by an excellent college and used as a source of milk for their dormitories was accused of causing an epidemic of more than fifty cases among the college students. Few, if any, deaths were caused by these epidemics, but the disease was severe and was extremely incapacitating.

Some of the victims remained in poor health for years. They would seemingly recover, and then at any time might suffer a relapse. They were in danger of a recurrence of the disease, particularly if they engaged in any sort of heavy labor, or returned to their work too soon after being acutely ill.

A brief description of the disease in its acute form may be in order. The patient complains of being tired and weak; he has fever that comes and goes in a characteristic manner (hence the term "undulant fever"). Chills, or at least chilliness, are characteristic as the temperature is rising. Profuse sweating is almost universal as the temperature is falling, and it leaves the patient utterly prostrated. There is marked loss of weight, and in prolonged cases this may reach the point of serious emaciation.

General pains of an aching nature are the rule, and are most severe in the legs, arms and back. Severe headache is a common symptom. Pains in the joints often lead to a diagnosis of arthritis; loss of appetite, nausea, vomiting, cough, sore throat, constipation and inability to sleep are common.

Abscess formation, swollen glands and other evidences of localized infection occur. The bone marrow, particularly of the vertebrae, may prove to be a localizing focus. The spleen frequently is enlarged and tender. The disease is likely to be confused with typhoid fever, paratyphoid fever, acute tuberculosis, malaria, acute rheumatic fever, influenza or, more remotely, tularemia, trichinosis, septicopyemia—blood poisoning with localized foci and abscess formation—or gallbladder infection.

Recovery is slow, but even so, most patients return too soon to an active life. Relapse or recurrence is very common, being a characteristic of this disease. There is reason to believe that many cases of mental disease can be traced to brucellosis infection. Few deaths are reported—2 per cent or less of all acute cases. The chronic form of the disease will be discussed later.

At one level of understanding of the disease, beginning about 1925-1930, much emphasis was given to the control of the disease in dairy herds. This continues, of course, to be an extremely important matter, and we know that the problem of complete eradication or near eradication of the disease from cattle will be long and costly. Possibly it is even more of a problem than was at first supposed.

The disease in cattle is predominantly an infection of the genital organs, uterus and udder in females and testicles in the male. Transmission is by contact of various sorts such as would be expected as the animals live together in the barns and pastures. Calves are not often susceptible prior to puberty. The infected cow tends strongly to abort, but having aborted once or twice, she carries her calves normally thereafter, provided she again becomes pregnant (there may be some difficulty in this as there is a strong tendency toward sterility).

Frequently, however, she continues to shed the germs in the milk for a long time. Such milk is unfit for human food unless it is pasteurized or boiled before being consumed.

Great effort has been made to test cattle for this infection, and then to eliminate the "reactors" from the herd. It must be remembered, of course, that the swine form of the disease, *Brucella suis*, may also infect cattle. This problem is one for the animal industry, and we shall hardly have time or space for the details of this work in this article. Suffice it to say that everything possible should be done to have the herds certified as being free from brucella infection.

There are thousands of Bang's free accredited herds in our land. Unfortunately, it is quite easy to reintroduce the disease by bringing in cattle from unclean sources. A certificate showing that each animal bought and added to the herd is free from infection is required, but even such precautions may fail.

The swine type of brucella organism has frequently been isolated from cattle, but experiments and experience show that the (*Continued on page* 724)

"I am sure babies must read the psychology books because they always do what the books say. If only we would take a hint from baby!"

Baby knows best

by ROSE ZELIGS

AT BIRTH there is no difference between your baby and a caveman's baby. An exchange of babies would make your child grow up to be a caveman, while the child of the savage would develop into what we consider a civilized 1947 model.

At birth the infants are about the same. They are both born with certain abilities that lead to survival. The most important of these is the ability to breathe. In addition, a normal full term baby is born with ability for successful feeding. This ability consists of finding and grasping the nipple, sucking and swallowing, and dropping the breast when his hunger is satisfied.

In a few premature babies, or weak babies, the ability to swallow may not be well developed at birth. Milk put into the mouths of these infants might go down their windpipes and choke them. Pediatricians usually feed such infants with a stomach tube until the swallowing reflex matures. The abilities to suck and to swallow appear at the same time, so when premature infants start sucking, they are at once and from then on fed the normal way, because the doctor knows they are able to swallow.

The first few days of a normal infant's life are very important in helping him learn good feeding attitudes. Take a hint from baby and don't obstruct his needs nor ignore his abilities. First, there is the psychological setting your baby needs at feeding time.

An infant is born with three fears: fear of falling, fear of bodily restraint, and fear of sudden, loud noises. Give him freedom from these fears.

Hold him securely in your arms so that he feels supported. This will remove the fear of falling which has been built into his nervous system as a means of survival. His ability to grasp and hold tight is another answer to this need.

Cuddle your baby, but do not curb his freedom of movement. He violently dislikes bodily restraint. If you press his arms and legs together and hold him that way, he will feel frustrated and fight for freedom of movement.

Sudden, loud noises will startle and frighten your baby and make him cry, but normal, everyday

sounds are taken in stride. Protect him from unfamiliar noises.

By providing a psychological setting that includes these three freedoms, you allay the instinctive fears that have been developed by the primitive baby's needs for survival.

But today's baby has a need for a fourth freedom, freedom from forced feeding! Your infant is born with literally the wisdom of the ages, the instincts built up through countless generations to insure his survival. Take a hint from him.

First, do not be afraid that he will not eat! The urge or need for food, and the method of eating, are part of this strong pattern he has inherited. The first pains your baby feels are those of hunger. They are caused by contractions of the walls of his stomach. When food comes in contact with these walls, the pain ceases. The child thus finds satisfaction in eating since hunger pains are replaced by food-getting pleasure feelings.

Cuddle your baby so that his cheek is against your breast. This touch, and the smell of the milk, will cause a hungry infant to move his head around in search of the nipple. If you put your hand on his face to turn him towards the breast, the infant will become confused and go after the hand that touched his face rather than follow the hand in the direction of the breast.

After he finds the breast he will grasp the nipple and start to suck. The milk is thereby brought to the back of the throat, safely past the opening to the lungs, and swallowed. When your baby has had enough, he drops the nipple and stops nursing.

Remember, Baby knows best! You can't tell how much he takes from the breast, but you can tell how much he takes from the bottle. Here is where the trouble comes in. If he leaves some in the bottle, don't try to force him. He knows when he has had enough.

If you take this hint from baby, you give him the happy feeling of "eating" because it's fun, of satisfying his hunger pains by freely seeking the breasts, sucking, swallowing and then stopping when he's had enough. Don't spoil these pleasant, satisfying associations. Don't replace them by associations of disgust at forced feeding or frustration at being made to stop. Leave it to him. This applies to both bottle-fed and breast-fed babies.

But you may say, "My baby is asleep at feeding time and I have to spank him or snap his hands and and feet to wake him!" That is an unwise thing to do, because you create an unpleasant association with nursing when you should have a pleasant one.

It often happens that babies are made sleepy and dull by the drugs given the mother before delivery. Such infants may not care to eat much the first three or four days. Wait till the baby is fully awake before letting him nurse. In a few days he will show more interest in eating.

What about that night feeding? Dr. C. Anderson Aldrich, of the pathfinding Rochester child health project, says that if the baby is offered feedings whenever he cries at night, he will himself eliminate the early morning feeding by the time he is 6 weeks old.

This doctor's advice (*Continued on page* 726)

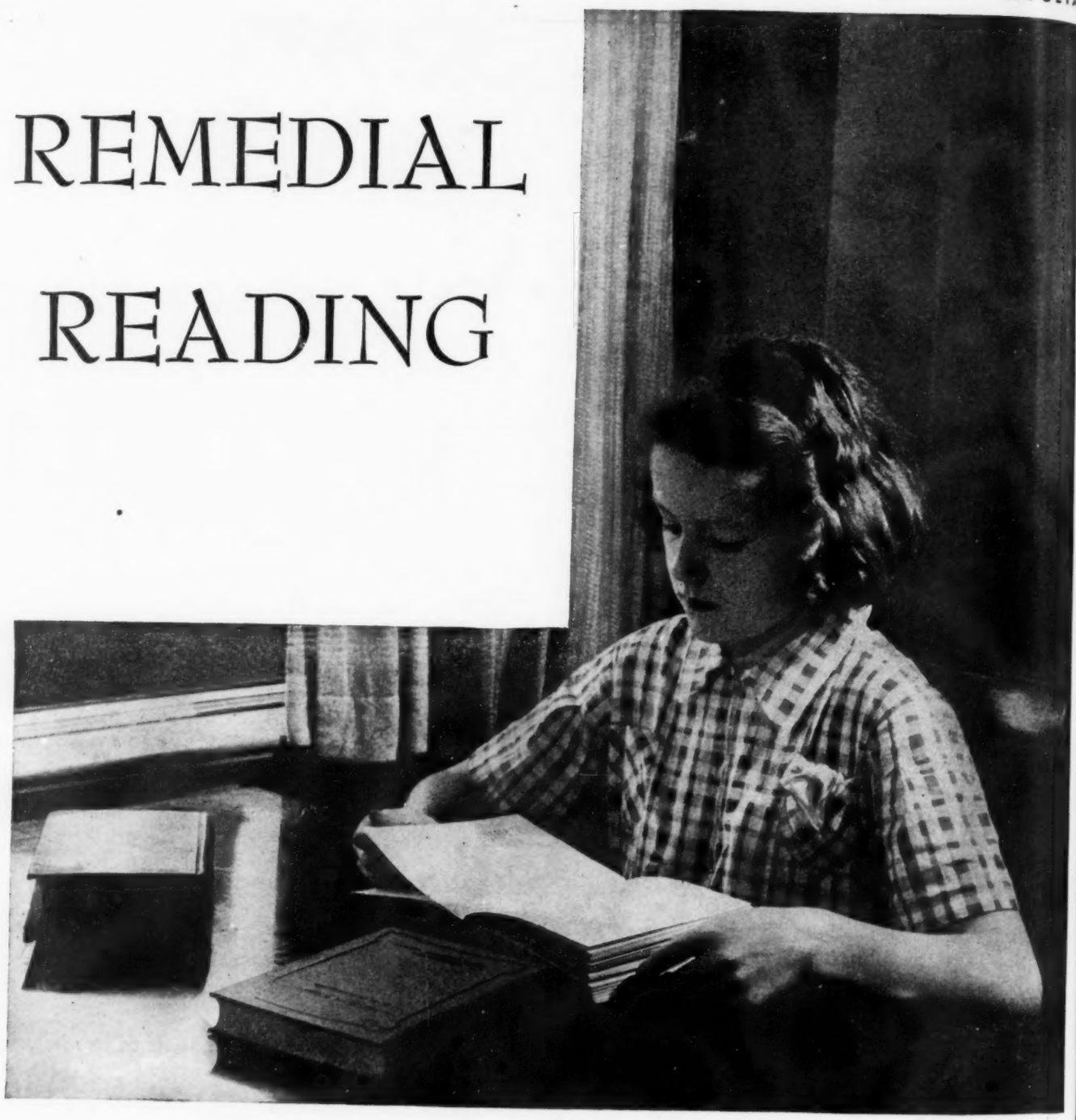
TEST FOR PARENTS

Underline the correct answer.

1. Baby will usually overeat if you let him. YES NO
2. A strict, inflexible routine must be observed with every baby. YES NO
3. You should cut out the 2 o'clock night feeding when baby is one month old so he won't get too used to it. YES NO
4. Baby needs loving and cuddling. YES NO
5. Every baby has his own rhythm which may differ from that of other babies. YES NO
6. Baby is the best judge of the amount he should eat. YES NO
7. Mealtime should be a pleasant affair. YES NO
8. Baby must be taught to eat everything YES NO
9. It is normal for babies to dunk their food. YES NO
10. Mother should praise the baby every time he cleans his plate. YES NO
11. Eating should bring its own satisfaction. YES NO
12. Children like plain food simply cooked. YES NO
13. Baby will eat different amounts of food at different times. YES NO
14. Food should be offered to children in a friendly but nonchalant manner. YES NO
15. A child's eating habits should show that mother is boss. YES NO
16. Dessert should be a reward for eating other food. YES NO
17. Twenty minutes for breakfast and thirty minutes for dinner and supper is a good average time for meals. YES NO
18. Always see that baby drinks his whole bottle. YES NO
19. Baby should be permitted to feed himself only if he can do so neatly. YES NO
20. Rewards help children form good eating habits. YES NO

A score of 20 is exceptional; 17 to 19 is very good; 15 to 16 good; 12 to 14 fair; below 12—look out for a feeding problem in your child. *(Answers on page 728)*

REMEDIAL READING



Ewing Galloway Photo

by DOROTHY INGRAM LIGHTFOOT

THE teaching of reading has been receiving an unusual amount of attention in the last few years. The number of children who do not learn to read satisfactorily is tragic. The teacher is blamed when a child fails to learn to read. The principal is on the defensive because she feels it is a reflection on her and her school. The parents are worried and ashamed. The child is made to feel it is his fault, that he is lazy and stupid.

If, as most educators believe, one-third of the children attending school regularly fail to learn to read satisfactorily, we need to find out why. This is a terrific waste of tax money to say nothing of the emotional havoc wrought by the feelings of failure in these children. The reading problem needs to be brought out in the open and admitted as a problem. Nothing really constructive can be done in many school systems until superintendents, principals and teachers admit there is a problem and stop feeling guilty and covering up.

There are no more children born now who will have difficulty learning to read than there were 50 or 100 years ago. There are different circumstances which make us more aware of these children. Years ago most children did not and were not expected to finish high school. Many dropped out earlier than high school, some after fourth or sixth grade. A large number of those children who dropped out were probably the ones who did not get much feeling of satisfaction out of school because they found

they were unable to learn how to read adequately.

There is another factor which educators are coming to see; namely, that some children are born more language-minded than others. Some intelligent children are more "thing"-minded. Most of our schools are planned for the language-minded child.

The nonverbal child has many abilities that have no chance to develop in schools planned primarily for the verbal or language-minded child. The nonverbal child is often talented in music, arithmetic, science, manual arts or mechanics.

Volumes could be written about the emotional difficulties caused by schools that put too high a premium on the written word. Reading is often the single factor used in determining promotion in the early grades.

Another group of children have a specific difficulty to which the name "strephosymbolia," which means twisted symbols, has been supplied by Dr. S. T. Orton, formerly of Columbia University. These children can be distinguished from the nonverbal child by their ability to express themselves orally and their interest in stories read to them. Also they frequently have a history of mixed dominance. They are often late in showing a preference for right or left hand, that is after two years; or sometimes they use first one hand and then the other almost equally well.

Often some of their parents and grandparents were left-handed and some were right-handed. They read mirror writing too well with no previous practice or write mirror writing easily. They are sometimes left-eyed and right-handed or right-eyed and left-handed.

These children are often unusually awkward about tying shoe laces, buttoning buttons, writing, or doing other manual things that require fine coordination or a good sense of direction; whereas the nonverbal child has fine coordination and is at his best in anything requiring the use of his hands.

Children with this reading difficulty can be taught to read. It takes patience, encouragement and, above all, the right teaching methods. There are three avenues through which reading can be taught —visual, auditory and kinesthetic. Strephosymbolic readers cannot rely on visual recall as much as the ordinary reader. Therefore the kinesthetic and auditory methods are used.

An informative discussion of a little understood subject that may be vital to your child's happiness and success.

As the name of strephosymbolia or twisted symbols would imply, the child with this reading difficulty confuses letters such as *p* and *q*, *b* and *d* and reads *was* for *saw*. Since these confusions and many others are individual matters, individual teaching brings the most rapid results and the most lasting.

I will not go into details of the method because it is not one that the mother or person without special training could apply. However, in most cities a person could be found who has had training and experience in teaching remedial reading. Your pediatrician, librarian, or school principal can usually tell you about such a person.

Remedial reading by its name suggests remedying or corrective reading. Unfortunately, there is no way known at present of telling whether a child will need this sort of reading until he has tried to learn for a year or two.

By the end of two years, if a child has not learned to read by usual school methods, it is time to do something about it. Many children have been brought to me at the end of fourth or even fifth grade who had not only reading difficulties but emotional difficulties due to continued feelings of failure and frustration. It would take a long time to break through the "I don't care" and "I don't want to learn to read" shell and really begin to teach them.

Due to their lack of success in reading and consequently in their other school subjects, they had compensated by getting into all sorts of trouble. Usually their wrong behavior began at about the time they began first grade and was so mixed that it was hard for the parents to believe it was a reading difficulty that caused misbehavior and not the other way around—a matter of "bad" behavior and lack of effort causing failure to read.

As your child starts to school it is important to remember that it is not to be expected that all children are ready to begin reading just because they are six years old. Most schools are now doing "reading readiness" work at the beginning of first grade. Some children have reading problems because they were started before they were mature enough physically, mentally, and emotionally to profit from reading instruction.

Other children talk "baby talk," have not had the experiences that they will read about in their first books or have too short a span of attention. Some, particularly if they have had no kindergarten experience, are too insecure in their relations with the other children and too distracted by them to concentrate on reading.

If I had a child who had not learned to read by the end of second grade I would take him to a pediatrician for a thorough physical examination including an auditory test and an eye examination. If no physical or emotional reason could be found, I would find a person who specialized in teaching reading and begin the reading work.

After second grade most subjects require large amounts of reading with good comprehension. Obvivously, a child failing in history, geography, word problems in arithmetic and science may not be failing in these subjects but failing in reading. Unless a child can read adequately, he will have more trouble each grade.

Parents have asked me how they can keep their child from having trouble learning to read or how they can find out if he will have trouble. I don't know the answer. Practically all the children with reading difficulty that I have taught have been boys. Reading experts have reported in their investigations that most children with reading problems are boys, and so far, I have never (*Continued on page* 715)

WILL ROSS and The rehabilitation

by J. ARTHUR MYERS
and
VIRGINIA L. DUSTIN

PART II

WILL ROSS'S "week" in River Pines Sanatorium stretched into nearly five years. The condition of this man, who later was to rehabilitate himself and to become a leader in the rehabilitation of others, had suffered from years of what, under any modern conception of the treatment of tuberculosis, would be regarded as neglect.

Probably infected in childhood and reinfected as a young man, he had twice tried the virtues of other climates and there improved, probably because of adequate rest and nourishment. Both times he had taken employment as a newspaper reporter under highly adverse conditions and had relapsed. When he returned to Wisconsin the second time and was persuaded to "try" the sanatorium at Stevens Point, the outlook was anything but favorable. For the first eighteen months it appears to have been pretty much touch and go.

There were none of the special aids to treatment in those days that the patient now enjoys. The only exception to this rule was tuberculin which was being used rather generally without any measuring stick that satisfied anyone as to what results it was giving. But what River Pines lacked in specific treatment or surgical intervention was partially compensated for in the personality of the medical director, a hearty Irishman named Dr. Thomas H. Hay, whose philosophy was that "rest never killed anyone" and rest is the thing that matters in the treatment of tuberculosis.

In a day when the helpless consumptive was gorged with raw eggs and milk on a process similar to stuffing Strasbourg geese, Hay fed his patients normal rations and plenty of them. As in all other institutions, fresh air was practiced or perpetrated to the *nth* degree. Whether it was 35° below or 102° above, patients lived almost continuously outdoors, with a drift of snow on their blankets on many a winter morning. As long as there was fever and as long as Dr. Hay thought it necessary that the patient be off his feet, woe betide the person who failed to follow his instructions for rest. A ton of brick landing on the patient would have been light by comparison.

As far as Ross was concerned, it worked; he has carried to this day a great respect for rest in tuberculosis because he knows many other ex-patients who had the same prescription and today are leading completely well, useful lives.

During the end of his years at River Pines, Ross was permitted to do some office work to help pay his way. In a shack on the sanatorium grounds he had a small store where he sold postcards, paper, needles, thread, and other small articles to patients. Sometimes he was too weak to wait on his customers and he pointed to the articles so that they could help themselves. Out of that grew the idea of a series of such places established in various sanatoriums, and after he "graduated" he decided to start a small store at the Wisconsin State Sanatorium, which, because it had four or five time as many patients and employees, offered a wider outlet.

In 1913 he bought a tract of land adjacent to the Wisconsin State Sanatorium and erected a store building. The total cost of land and building was $500. There he sold rubber collars to the boys who preferred them, stationery and in fact everything by way of notions that sanatorium patients used. He had to borrow $500 to purchase some of his merchandise. Dr. Hoyt Dearholt, secretary of the state Anti-Tuberculosis Association, told the creditors that it was not a very "hot" financial but a mighty good moral risk.

Ross had an idea of expanding this little shop into a chain of sanatorium stores but it quickly became obvious that the field was too limited to be practical. Since he had been reared in a paper-making center, the thought occurred to him of augmenting his income by selling paper needs to tuberculosis sanatoriums by mail. Paper napkins were the first venture, followed shortly by paper tray covers, sputum cups and gradually other things.

In his little store Will Ross procured an old typewriter and a mimeograph machine on which he pre-

pared letters for the launching of a mail order business. His letters were sent to hospitals and sanatoriums calling attention to the products, particularly those of paper, that he could supply. He knew every need of the tuberculous patient and the sanatorium.

In 1919 Ross moved his store into two small rooms in Milwaukee and today his business occupies 65,000 square feet of floor space and he provides work for more than 300 persons, several of whom have been treated for tuberculosis. Will Ross, Inc., has become known in sanatoriums and hospitals everywhere.

Here is a striking example of a man who was desperately ill with tuberculosis, so ill, in fact, that his physicians had no hope for his recovery, but through patience, obedience to the rules of the institution, a strong desire to live and realize his vision of a life of service, his disease began to abate and at the earliest possible moment he began to rehabilitate himself. There was no rehabilitation program in those days and no organization to which the convalescing patient could appeal, but there was that innate desire to conquer disease and to succeed in life.

Moreover, Will Ross had character that had been well demonstrated to his fellow patients and the administrators of the sanatorium; character that merited their utmost confidence in him. Hence his friends were anxious to give him moral support, which often is more valuable than money. His character was such that no one who knew him would hesitate to trust him in a financial way. He was not

of the TUBERCULOUS

the type of person who believes that the world owes him a living without work or the type "to cry over spilt milk"; whenever he accepted anything from his friends it was with the full intention that it be returned, not as given but when possible a hundredfold.

Not only had Will Ross rehabilitated himself so as to establish and conduct an extremely useful industry, but he had also given freely of his time and energy in the organized campaign against tuberculosis. For many years he was a member of the executive committee of the Wisconsin Anti-Tuberculosis Association; for some years he was on the active staff and now on the board of directors. He has been on many committees of the Mississippi Valley Conference on Tuberculosis and for a long time has been a member of the governing council. In 1940 he was chairman of the program committee and in 1943 he was awarded the Dearholt medal in recognition of his outstanding service in the organization.

In the National Tuberculosis Association at various times he has been on nearly all of the advisory committees, such as those of the Christmas seal sale, early diagnosis, and business administration. For many years he was a member of the executive committee of the National Tuberculosis Association. In 1944 he was elected to its presidency, the highest honor attainable in the field of tuberculosis in the United States. This election was greeted with enthusiastic approval by the physicians as well as the lay tuberculosis workers throughout the United States.

Will Ross has written a number of valuable articles, one of which deals with the protection of general hospital personnel against tuberculosis. These represent only a small part of his activities in combating tuberculosis. He has done and continues to do much more of great value, of which only his most intimate friends have knowledge.

The late Dr. Dearholt, author of the slogan, "No Home Is Safe From Tuberculosis Until All Homes Are Safe," was one of America's best contributors to the control of tuberculosis. Indeed, he was a founder of the River Pines Sanatorium, where Ross was treated, and he did much to encourage and support this patient. Therefore, Hoyt Dearholt probably knew Will Ross better than any other man. In personal correspondence with the authors of this article he said: "Will Ross deserves a place in any book or article you contemplate because I think his career has been one of the most romantic in history."

As the story of Will Ross amply demonstrates, the chief difficulty in the rehabilitation of the tuberculous is overcoming the disease. Tuberculosis is so treacherous and deceitful that it usually has created an extremely difficult condition to overcome before it causes its host any discomfort or any inconvenience. When tubercle bacilli in large numbers gain entrance to the blood stream or to the meninges of the central nervous system the attacked individual is near death before symptoms appear. Nearly all persons who develop these conditions and many who have the reinfection type of tuberculosis pneumonia die.

In its chronic forms, (*Continued on page* 728)

MEASLES

IT IS scarcely possible to consider the diseases of childhood without instantly thinking of measles. Frequently the physician is told that a certain member of the family, perhaps the youngest, has not had measles "yet." It is usually taken as a foregone conclusion that there is no permanent escape from this disease. Moreover, this attitude of mind is not strange but does in fact seem reasonable when we review the history of one of the most prevalent of all diseases.

Measles, also known by the name rubeola, has been recognized for centuries, although in early times it was often confused with scarlet fever and sometimes with smallpox and other eruptive conditions. It occurs in all climates, affects people of every race, and shows no preference in regard to sex. Under six months of age, however, it is uncommon. This is because the mother generally has had measles and on that account substances that afford temporary protection are transmitted to the child before birth. But after six months of age it is unsafe to assume that anyone who has never had measles will not contract the disease if exposed to it.

Occasionally someone asks, "Why don't more grown people have measles?" The explanation, of course, is a very simple one. In a large city almost all children have measles before or soon after entering school. One attack of measles practically always confers a life-long immunity.

But in small towns and country districts, because population is not congested and people are more isolated, the opportunities for transmitting contagious diseases are less favorable. Consequently, when an adult suffering from measles is seen in a large city, we are likely to conclude he is a newcomer who probably grew up in a small town or country district where he never had measles. Only rarely is a mistake made in such deductions.

If the entire population of a community was not exposed to measles for a period of years it would be possible for the children to reach adult life without having this infection. However, even at an advanced age susceptibility would remain unaltered. Only one circumstance is dependable for continuous protection: those who have had measles do not get it again. Consequently, when we are told of an individual having measles two or three times we are likely to doubt that the second or third case actually was measles.

It must be remembered that measles and German measles are two different diseases and that one provides no protection against an attack by the other. The confusion that sometimes occurs in respect to these two diseases is probably responsible for the mother's assertion that her child has had "measles" more than once.

In most large cities there are periodic epidemics of measles every two to three years. The more extensive the epidemic, the fewer cases there are likely to be the following year. This is often illustrated in a vivid manner by health department statistics which may show many thousands of cases one year and a few hundred the next. It is in one definite respect an example of supply and demand.

The ultimate supply depends upon the number of newborn babies each year, but the great majority of these will not contract measles before they are six months old. Some children will not have the disease before school age; the more who escape, the greater will be their contribution to the size of the next epidemic.

The demand for victims is specific. Usually there are only two requirements, (1) susceptibility and (2) exposure. Thus it is apparent that the extent of an epidemic in a community is influenced primarily by the number who have not had measles.

We generally expect that susceptibility and exposure will result in an attack of measles because we assume that exposure implies infection. But in rare instances a susceptible person may be exposed to measles on one occasion without being infected, and yet at a later time contract measles.

Even though all of the children in a large hospital ward may be exposed to measles, occasionally some of those who are susceptible do not develop measles, notwithstanding that no preventive serum has been administered. But such an occurrence is scarcely possible unless all are confined to cribs or

beds. In the home, however, because of close contacts, all unprotected susceptibles are practically certain to have measles if exposed.

It must be remembered that the bronchitis (cough) is not a complication but a definite part of measles. With the cough the measles virus is forcibly cast out into the air and so the susceptible person may become infected even though some distance from the patient. Measles is a respiratory disease and transmitted in much the same manner as the common cold.

In order to appreciate the difficulties which are encountered in attempting to control the spread of measles, and at the same time to explain why comparative freedom of action is permitted those who are exposed, provided they have had measles, it is well to consider the nature of the "germ" responsible for this infection.

AND ITS PREVENTION

By ARCHIBALD L. HOYNE

Measles is caused by a virus that gains entry to the body by way of the nose and mouth and attacks the mucous membranes. As a consequence, the respiratory passages become inflamed. The inflammation produced in the air passages of the lungs is known as bronchitis, and as a consequence of this irritation, a cough is produced. The eyes become inflamed and the lining of the nostrils is likewise affected.

All the symptoms are suggestive of the common cold. And unless it is known that the patient was exposed to measles about 11 to 14 days previously, no precautions in regard to isolation are likely to be adopted. Nevertheless, at this period of the illness, measles is extremely contagious, in fact, more so than four or five days later after the rash is fully developed over the body surfaces.

Formerly it was a common custom to placard the premises for measles. However, the true condition is usually unrecognized until the patient is "broken out." Consequently, as a rule, a warning sign could not be put up until after the chief danger of exposure was passed.

During the height of the contagion a susceptible person may contract the disease merely by passing the open door of a patient who is suffering from it. When one member of a family contracts measles it is rare for any of the others to escape if they have not had the disease.

Susceptible children who have been exposed to measles should not be sent to school. Others who have not had measles should not be allowed to enter the home of a measles patient.

Notwithstanding the intense contagiousness of measles, the life of the virus is brief, and it is not tenacious like the scarlet fever germ. This explains why people living in a home where there is a case of measles are permitted to go in and out at will, provided they have had measles at some time in the past. Children who have had measles are permitted to attend school even though living in a home where there is a case of measles. There are no measles "carriers." To contract measles it is ordinarily necessary for a susceptible person to be exposed to someone who has measles.

The preceding sentence is qualified with the word "ordinarily." Doctors or nurses in a hospital could carry measles from one patient to another who had never had the disease. Under such circumstances the lapse of time in passing from patient to patient would be brief. For the purpose of preventing such an occurrence, hands of the attendant are washed with soap and running water and the gowns worn while in contact with the measles patient are discarded when the attendant leaves that room.

The same precautions should be adhered to in the home. Because the measles infection can be carried for some distance indoors by a current of air, it is necessary to keep the door of the patient's room closed.

The measles virus does not cling to toys, books, bedding, clothing or furniture for long. When the patient has recovered, simply airing out the sickroom is sufficient to make it free of any danger of contagion.

There is no vaccine or other product for establishing a lasting protection against measles as there is for smallpox and diphtheria. But there are measures that can be used to afford temporary immunity or to attenuate an attack of the disease. For more than twenty-five years human convalescent measles serum has been used for such purposes. This is serum obtained from the blood of individuals who have recently recovered from measles. The pooled serums of healthy people who have had measles have also been used for the same purpose.

Unless there is a serum center in or near the community, it is not always possible for the physician to procure human serum. But there is another preparation, human immune globulin, which is extracted from the placenta, and this can be purchased by the physician at drugstores.

And now there is a better remedy developed during the war in connection with the preparation of plasma from blood donated to the American Red Cross. This measles prophylactic, gamma globulin, is a fraction of plasma and contains a concentration of antibodies that provide protection against measles or modify the attack.

Some physicians believe that no child under two years of age should be permitted to have measles if it can be avoided. This opinion is held because of the greater likelihood of complications, especially pneumonia, in the very young. A similar situation exists in respect to delicate children or those who are ill from some other disease when exposed to measles. The theory is that even (*Continued on page* 731)

What about the IQ

by G. D. STEVENS

PROBABLY no other term in modern education has caught public fancy as the term "I.Q." One well known radio program calls its master of ceremonies "Dr. I.Q." Another well known radio program recently dramatized the story of the measurement of the I.Q. Articles frequently appear in the press describing children with phenomenal I.Q. who are attending our leading universities. Housewives discuss the I.Q. of their own and others' children over the bridge table. Teachers, social workers, and juvenile court judges discuss the I.Q. in hushed reverence.

In spite of the widespread familiarity with which the intelligence quotient is treated, there is considerable misunderstanding of its actual role in modern education. There are many and varied ideas about the I.Q. and other mental test scores. It is the purpose of this discussion to review some of the common fallacies associated with the use and application of the I.Q. and to attempt to give the reader an insight into the role of the I.Q. in modern public education.

One common misunderstanding concerning the I.Q. is the belief that it is a measure of mental stability. A delinquent child of about 14 was recently brought to the office of the writer for a routine mental test. He had been referred by the Juvenile Court and was charged with burning a barn. When asked why he had been brought for examination, he said, "To get my brains tested. They think I'm nuts."

It is likely that the use of mental tests in the study of children with behavior disorders and emotional disturbances has given rise to the notion that mental tests are tests of "sanity." Even well informed people speak of mentally *deficient* people as mentally unbalanced or "a little off."

Another belief frequently expressed by schoolteachers is that the I.Q. is a fixed, static measure of intellectual status. Until recent years it was believed that the I.Q. was constant and permanent. Research has shown, however, that the I.Q. is subject to considerable variation.

Another misuse of I.Q. is frequently found in its application. The I.Q. is thought of as a highly refined, accurate measure of intellectual development. It is spoken of in the same breath with measure of height and weight. The writer has seen I.Q. scores calculated one place beyond the decimal point and recorded on cumulative records. It is not that precise.

Interpreting the I.Q. literally is a common error. Parents speak sometimes of children as having "normal" intelligence since they have scored an I.Q. of 100. In interpreting the I.Q. quite literally, they think of children with an I.Q. of 95 as being mentally retarded and children with an I.Q. of 105 as being above average, or bright. This notion arises because of the assumption that an I.Q. of 100 is average. In interpreting average to mean normal, the idea has been quite plausible.

Parents have sometimes spoken of their children as having an I.Q. of 100 per cent. Some teachers have been known to think of the I.Q. in this fashion. While this error in interpretation is not as frequent or as serious, it is quite incorrect. There are some mental test scores that use a percentage relationship—not as percentage of intelligence, but *for comparing one individual with the others in his group.* Since we do not know what the upper limits of intelligence are, we cannot express any portion of it as a percentage. While the I.Q. is a mathematical concept, it is an index ratio rather than a percentage.

There are a number of other fallacious notions

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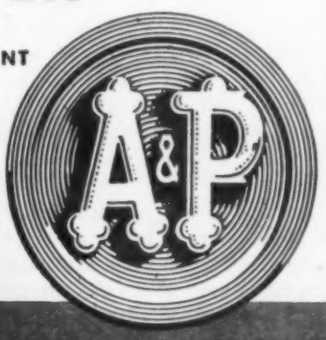

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about the I.Q. Those described are the most common. It is evident that there is a need for a better understanding of the role of the I.Q. in the understanding of young children as they grow and learn in the modern school.

In order to understand what the I.Q. is intended to do and how it is obtained, it is necessary to have some understanding of the concept of general intelligence. While there is some controversy over the meaning of intelligence, there is some agreement that it is a quantitative value that can be roughly measured.

One view that is widely held might be briefly described. General intelligence, according to some authorities, is the inborn capacity to respond and adjust to situations and problems that arise in the environment. The extent to which an individual solves these problems of adjustment to the environment is a measure of his capacity for adjustment: that is, of his intelligence.

Intelligence is thought to be made up of several factors. Language, or the use of symbols, is considered a major aspect of intelligence. It is essentially through language that we are able to tap general intelligence, though it may be done by other means. Intelligence is also thought to be made up of memory, reasoning, judgment, quantitative thinking, and other factors.

The highest degree to which one uses these factors in the solution of his daily problems reflects the quantity of his intellectual capacity. Intelligence may thus be thought of as quantitative.

This capacity to adjust to situations arising in the environment may be roughly measured by giving a mental test. The mental test is essentially a series of standard situations and problems that have been arbitrarily chosen to measure some of the factors mentioned above. By standardizing the situations, we have a basis of comparison from one individual to the other.

Mental tests have been so constructed that we can compare individuals on an age basis. For example, we can set up a series of tasks for 5 year old children that we have assumed to be of "normal" or average intelligence. It has been found by trial that an average group of children of that age are successful with most of these tasks. Therefore, if we take any child 5 years old and give him these tasks, and if he is as successful as most of the 5 year olds, we can say that he is able to do the things that average 5 year old children can do. We may say that he has a mental age of 5 years.

This same holds true for all ages up to about 15 or 16. Beyond the age of 16, the tasks that have been chosen do not seem to differentiate groups one year apart.

In practice, however, an average 5 year old child will actually do most of the tasks for 4 year olds, and probably all of them for 3 year olds. He will do most of them for 5 year olds, some of the 6 year old tasks, and probably none of the 7 year old tasks.

The mental age is thus determined by his success over a wide range of years from a point at which he can do all the tests up to a point where he can do none of the tests. Thus we have his whole range of mental ability expressed in months.

We cannot say that a child who has an M.A. of 5 years is more intelligent than a younger child with a mental age of 4. We must, therefore, have a way of making a comparison of the intelligence of children of different ages.

We must resort to a score which will be comparable in spite of age. Therefore, we use a mathematical ratio known as the I.Q.

The I.Q. or intelligence quotient is an expression of the ratio between the actual age and the mental age on the test.

For example, if a child 5 years old scores a mental age of 5 years on the test, he is said to be average for his age. By dividing the M.A. or mental age by the C.A. or the chronological age of the child, we get an I.Q. or intelligence quotient of 100. We can then compare a 5 year old child with a 4 year old.

Suppose we retest the child when he is 6 years and 3 months old. At that time he earns an M.A. of 6-3, which gives him an I.Q. of 100. We see then he has matured one year mentally, but is not "brighter" or more intelligent in spite of an increase in test score, since, as shown by the I.Q., the relationship between the mental age and the chronological age still remains the same.

The mental age is best thought of as a measure of maturation while the I.Q. is a measure of brightness.

Let us consider an illustrative case. Suppose a child has a chronological age of 6-1. This is changed to months, which is 73 months. Suppose he earns a mental age score of 73 months. By dividing the actual age of the child (73 months) into the mental age (73 months) we get 1.00. By removing the decimal, we say the child has an I.Q. of 100.

Another child of 12 years, or 144 months, earns a mental age of 72 months. His I.Q. is 50, which would make him half as bright as the first child. When the I.Q. is less than 100 we know that the child is not mentally up to his age. If his I.Q. exceeds 100, we can say he is mentally above the average of children his actual age.

Generally, mental tests are most reliable between the ages of 6 and 12. Tests may be given in groups using "paper and pencil" methods. The best mental tests are given individually by a well trained examiner under the best possible conditions. Group tests serve as a large screen and the individual mental examination as a finer screen for sorting out the children.

The tests are not greatly affected by academic learning in the sense that a child who has had more formal "schooling" than another will be more successful, although special skills such as reading ability are an advantage. The test assumes all children have equal opportunity. It is now agreed that the nature of the environment may make the difference in performance on a mental test, since children from more fortunately situated socio-economic groups do better on mental tests than those from poorer groups. Chinese children would test like the feeble-minded on tests for American school children since they would not have had the experiences necessary for success. They would do quite well on tests using situations and language familiar to Chinese children.

The I.Q. scores are relatively constant in that they are about the same for the same child after repeated testing under optimum conditions. However, they are subject to some variations due to factors inherent in the test situation, the child, and the environment opportunity.

It is quite evident from the foregoing that the mental test for general intelligence is not a measure of sanity. There are other tests for this purpose. Intelligence tests scores such as the I.Q. are measures of the capacity for school success.

The I.Q. is not a fixed or static score. At best, the modern mental test is a crude tool that gives only rough estimates. The score is subject to considerable variation. The feelings, health and physical fitness and willingness of the child and the skill of the examiner are conditions that tend to produce variations in the score. The scores may change from day to day, from test to test, and from one examiner to the other. It is unsound to use any single score in such a way as to imply that the score is fixed and permanent for the life of the individual.

By and large, the last test score is most accurate but it is best interpreted in relation to a series of scores repeated over a period of years.

It is evident that the scores are not measurements that may be thought of as the acme of accuracy and refinement. At any age level we might think of average intelligence as being

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In spite of more than a quarter of a century of work and study on mental tests, there is much misinformation regarding the use of mental tests and I.Q. scores. There is considerable need for better understanding of the use of the I.Q. and other mental test data.

General intelligence is thought to be made up of a series of factors that lend themselves to some degree of measurement. The modern mental test is a relatively crude tool for the determination of mental ability. Mental tests are good measures of prediction for success in school. There is considerable need for further development and refinement of mental tests that are actually measures of general intelligence. However, in spite of some of the limitations of present day mental tests, they play an important part in schools if properly used.

It is certain that tests will improve in the next decade. It is to be hoped that the understanding and application of test results will keep pace with the improvement in test devices and technics.

Misplaced Sympathy

(*Continued from page* 683)

that Mrs. Brown had regained her composure.

It was, therefore, with a little feeling of constraint that the Anthonys drove into the Brown's yard the following Saturday evening. However, the feeling was instantly dissipated for as they got out of the car Johnnie came rushing up with a baseball and glove and a new demand on the doctor—"My dad says you were a whale of a pitcher. You got to play ball with me." About this time Bill, all smiles and good nature, came around the corner and there was nothing for Dr. Anthony to do but play "one 'ole cat" until the dinner gong sounded.

Johnnie immediately became Dr. Anthony's chaperon and insisted on sitting beside him at the dinner table. As the meal proceeded, Mrs. Brown's touch of coolness seemed to disappear.

"Dr. Anthony," she asked, "what in the world did you do to Johnnie? He hasn't talked about a thing but you and the things dentists are doing to help make children healthier and better looking. You, furthermore, told Johnnie that most tooth decay was unnecessary if children would see the dentist regularly and eat as they should." All at once Mrs. Brown's friendliness had evaporated. Now she asked in very pointed language:

"Doctor, tell me frankly, were you by any means intimating that I, a graduate nurse, am not capable of supervising the feeding of a child? Don't you think I should know what a child should eat?"

Dr. Anthony, out of the corner of his eye, caught Bill grinning behind his napkin as if to say, "Well, let's see you get out of this, old boy."

The doctor turned to Mrs. Brown and assured her that there was no one to whom he would rather entrust the care of his children than to her, that of course she was giving Johnnie everything he should have but in recent years dental scientists had discovered that an accumulation of such little things as too much sweets, too much chewing gum and too many cough drops were often the difference between good and bad teeth.

Mrs. Brown turned to Johnnie. "Young man," she said, "you are going to stop that cough drop habit. Ever since you had that cold last fall, you have been carrying cough drops in your pocket, and you munch on them constantly."

Johnnie grinned and replied, "That won't be hard, Mother. I haven't tasted one since I came from the dental office last week."

"Doctor, how in the world did you do it?" asked Mrs. Brown. "We have been scolding him for over two months for that very habit."

In reply, Dr. Anthony told Mrs. Brown that he hadn't even suggested to Johnnie that he was eating something that was harmful but had taken him into the laboratory, explained some of the things that cause tooth decay and shown him how dentists streak saliva on culture medium and incubate it in order to measure the intensity of the tooth decay process. And, furthermore, Johnnie had insisted that his saliva be tested.

At this point, the family all wanted to know the result of that test. There was nothing for the doctor to do but tell them that Johnnie was very susceptible to tooth decay. But, he added, the condition was not serious and would in all probability respond rapidly to a change in eating habits.

If sugars and starches were deleted from Johnnie's diet for about three weeks, the germ test would, in all probability, show that the decay-producing germs had almost entirely disappeared from the saliva. After this period, starches, with sweets in limited amounts, could be consumed without making germs again active.

The Browns bade Dr. Anthony a very cordial good evening, and Mrs. Brown insisted that she, herself, was immensely interested in the wonderful things modern dentistry was doing for the health of children and that she would bring her brother, a physician specializing in the care of children, to Dr. Anthony's office very soon to see how the tests were made.

Adolescent Acne

(*Continued from page* 671)

should practically always be in the affirmative. However, the size and the number of scars can in most instances be so well controlled that the answer need not be too discouraging.

Let us examine the reason for the occurrence of the scars. Is it true that the use of x-rays or ultraviolet rays or surgery is the cause?

As I stated in a previous paragraph where I discussed postule formation, cellular death follows the irritation and pressure phenomena occasioned by the plugging effect by comedones. Necrosis or death invites invasion and easy propagation of microorganisms, which in turn further increases cell destruction. Whenever appreciable necrosis has occurred, a noticeable loss of tissue substance results.

When this tissue is replaced the new cells are predominantly of fibrous connective tissue, which nature tends to shrink. Thus an alteration of contour will result which is equivalent to what is ordinarily designated as a scar.

The cheeks and the sides of the neck are the areas most prone to become scarred. There is valid anatomic reason for this. In those locations the pilosebaceous apparatus is superposed on a loose subcutaneous fatty layer. A pustule can easily extend into it and create a long-lasting and slowly involuting lumpy, pus-containing nodule and since no firm underlying floor is present, as there is on the forehead, shrinkage of the replacement connective tissue occurs more readily and is more apparent.

Since .x-rays, ultraviolet rays and acne surgery are most frequently utilized in the severer types of adolescent acne, and since the likelihood of scars is in direct proportion to the severity of the acne, these treatment procedures have been unjustly blamed for subsequent scar formation, when in reality the scars were the product of the disease, not the treatment.

The course of adolescent acne varies with the severity of the disease, the sex affected and the timeliness and quality of the treatment given.

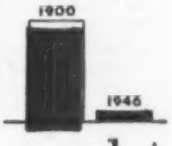
Boys suffer from a more severe form of the disease than girls. The effects of the South Pacific climate, which caused uncontrollable sweating, have greatly aggravated the consequences of acne among young people who served in that area.

Adolescent acne belongs in the category of skin diseases that are indeed greatly benefited by proper treatment. The length of the disease can be greatly shortened, telltale scars can be minimized and in many instances even prevented. In view of this fact, no youngster should be deprived of a properly conceived and thoroughly

Childhood Diseases,

once considered unavoidable, now can usually be prevented by immunization.

In one generation medical science has lowered the death rates from measles and whooping cough by about 80%. Diphtheria mortality is down 95%



since 1900. Few now die from scarlet fever, and smallpox is almost wiped out.

But only through constant vigilance

can these gains be held. Recently, when diphtheria immunization was neglected in some parts of the country, cases in those sections began increasing.

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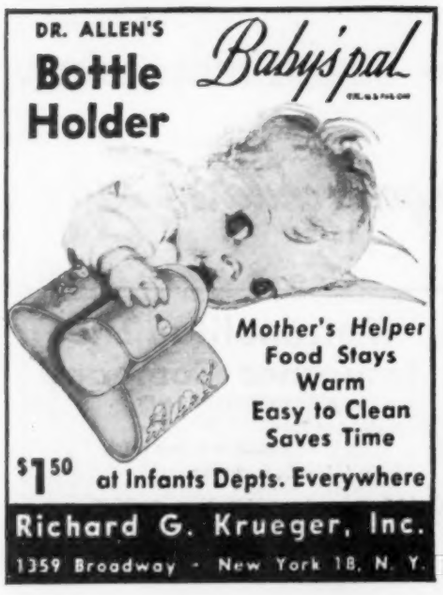


executed course of treatment. It will produce strong psychic as well as physical results.

Treatment of acne consists of several phases and should be individualized. Except in mild cases, the treatment must be carried out by a thoroughly competent and painstaking physician, one who not only knows what to do and how to do it but will spend the necessary time once a week or once every two weeks as the patient may require.

There is need for local office and home treatment plus a dietary regimen. Occasionally, when some secondary infection causes deep-seated abscesses or even multiple boils, penicillin or one of the sulfonamides is of inestimable value.

Above all, it is important that both the patient and parents understand the reason for the procedures carried out and the restrictions exacted. Enlightened cooperation instead of the "You do as I tell you, because I tell you" attitude will yield desired results.

The technic of comedone expression and pustule evacuation consists of enlarging the natural opening of the affected pore with the use of a delicate and exquisitely sharp bistoury, a slender surgical knife. The incision is made along the cleavage line of the skin. After using a compound skin-spreading pressure the comedone or the purulent material is completely evacuated. This procedure is nonhazardous and nonscarring, and when it is properly done it is of dramatic benefit.

X-rays are also used for local or topical treatment. They must be applied at proper intervals and in proper doses. To reduce the telltale scars ultra-violet rays or direct sunshine may be employed.

In recent years some physicians have employed a slush mixture composed of dry ice, acetone and pulverized sulphur. This mixture is applied with feather weight pressure over the affected areas and in many instances the end result can be materially enhanced with its use.

Home care is important. The face is cleansed at least twice a day: on returning home from school and on retiring. Plenty of time and freedom from clothes are essential elements of this procedure. The physician may prescribe a liquid or cream to be gently worked into the face and then removed before the soap and water cleansing, with another cream to be spread thinly and allowed to remain.

"Do not squeeze pimples or blackheads and do not look into a mirror until your face has improved" is an admonition that the patient should follow. As one leads to the other and as injury from squeezing frequently leads to the formation of scars, the ban on looking into a mirror is maintained until the habit of picking at the face is broken. Once over this hurdle the restriction is lifted.

The question what facial cosmetics can be used is of great importance. My opinion is that powder, rouge and lipstick are permissible but—unconditionally—no powder base, foundation cream, or occlusive type of face-masking cosmetic preparation, including calamine lotion or salve. Not infrequently serious consequences follow the use of occlusive cosmetics. A peculiar follicular dermatitis has been observed in several women following their use.

Frequent washing of scalp and hair is part of the home treatment. Hygienic necessity and not preconceived periodicity should determine the frequency of head washing. That frequent shampooing has deleterious effect on the hair or scalp is a figment of the imagination—of, I suspect, lazy people.

Food in itself seldom causes acne, but patients suffering from acne can be and are affected deleteriously by certain foods. These vary with individuals, but in the main experience has shown that rich foods are to be taken sparingly, if at all, at least until the acne has been ameliorated.

Where evidence is presented that Vitamin A or thyroid gland substance is needed or where some halogen like iodine or bromine is ingested, the proper supplement or elimination is instituted.

Purposely I refrain from discussing anemia, constipation and menstruation as causative factors in acne since I believe there is confusion about their role both in the cause of the disease and the rational application of treatment. They certainly demand individual consideration and each case must be decided on its merits.

Of course, there are many other considerations relative to adolescent acne. Of these maybe the psychogenic phase is the outstanding one. However it needs no emphasis, since it is not too difficult to understand what a beating a youngster takes when he or she can not enjoy the fun of dances and other social gatherings with his or her companions. It is just as needless to state that the best antidote is to get the acne under control as quickly as possible and all other things will fade into oblivion. Inferiority complexes fade when their source does not exist.

Especially about Children
the new department
"INFORMATION FOR MOTHERS"
Appears on Page 655
of this issue of HYGEIA

A Healthy Start to School

(*Continued from page 679*)

the deciduous or "baby" teeth are especially apt to have cavities.

Good, sound, evenly spaced teeth are as much a social asset to your child as they are a physical one. Neglected "baby" teeth can impair the soundness of the second teeth and crooked teeth can change a pretty face to an ugly one, and thereby rob a child of his right to a happy relationship with and the admiration of his fellows. A child with ugly teeth is self conscious, especially if he is teased about them. Irregular teeth may also affect digestion, eyesight and hearing and contribute to throat and sinus disorders.

Training in oral hygiene should begin early, and trips to the dentist should come twice a year. During his fifth year, your child's teeth should receive special attention. Your dentist will fill all dental cavities, unless he feels the pressure would be too uncomfortable. He may suggest an x-ray photograph to determine whether all the permanent teeth, now coming down, are in proper position, or whether trouble can be anticipated.

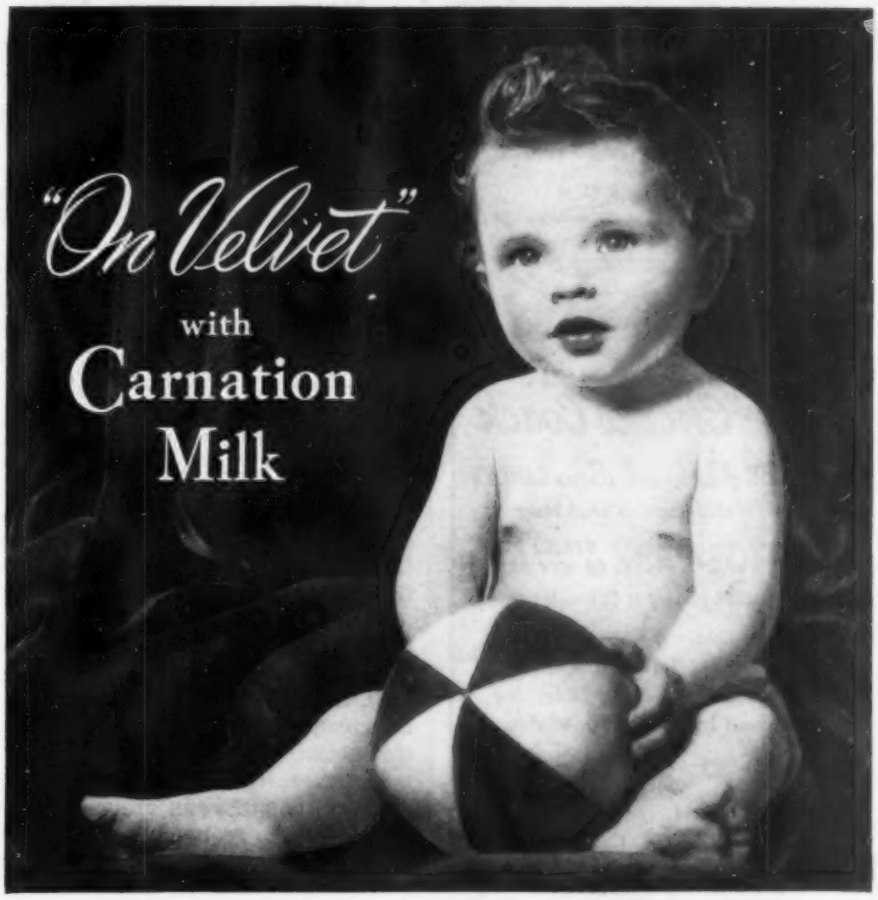
The sixth year molars, which replace no other teeth, need careful watching. These are the permanent, heavy duty teeth that perform most of the grinding of our food, and they act as the cornerposts of the mouth. Many children lose these teeth before they are eight, simply because they did not have proper care. By losing them a child's facial contours may be disfigured forever.

School can be such a wonderful time in a child's life that everything possible should be done early to make it so. No child can be very happy or successful in life if his health is neglected. Before your child starts school, it is time to take an inventory. A healthy child is a happy child.

SAFE TRANSFUSIONS

The possibility of transmitting malaria through blood transfusion has been brought to the fore by the recent war in which millions of Americans were sent into areas where the disease is prevalent the year around. In a recent letter to the *Journal of the American Medical Association* the head of a university department of medicine suggests that, as a routine practice, servicemen should not be considered as blood donors within two years after their return from an infested area—and then only provided they have neither had any symptons of the disease nor during the interim used suppressive drugs.

As routine, he urged that no person be considered as a blood donor who has ever had an attack of the disease.



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Hands Off Those Gay Autumn Leaves!

(*Continued from page 676*)

can be picked up by contact with the bare stem in the dead of winter.

A great deal of new information about the poisonous plants has been developed in recent years. The best known thing to do about poison ivy, still, is to keep away from it. But there are new means of minimizing the effects of unavoidable contact and of eliminating the source of trouble, the plant itself, from parks, roadsides and yards.

The substance that causes skin irritation is not properly a poison but an allergen. Eskimos and babies who have never been sensitized to poisonous plants are immune on first contact, but anyone may become susceptible—without half trying!

Urushiol is the name of the allergen, found not only in poison ivy and poison oak but in poison sumac as well. Chemists describe urushiol as a nonvolatile phenol compound and an oleo resin.

To nonsensitive people urushiol is as harmless as sugar. In other words, if you have never touched poison ivy before, you can handle it with impunity. But the next time you touch it, once your skin becomes sensitive because of contact with the rhus family of plants, the slightest trace of urushiol may cause a violent inflammation of the skin. Poison ivy dermatitis is an allergic reaction but it differs from hay fever and asthma in that the tendency is not inherited.

Once sensitized, you must look out! For some people one exposure is enough to establish sensitivity; in others prolonged and intimate contact must take place before the allergic mechanism is finally set in motion.

The usual symptoms of plant poisoning are itching and redness of the skin coming on within a few hours or even days after exposure. There follow burning sensations, then water blisters, which are often arranged in lines following scratch marks. In severe cases huge blisters or blebs come up and the flesh, especially where the skin is loose, becomes greatly swollen. The eyes may be closed as if stung by bees and the face may be unrecognizable.

The swelling may last for days or even weeks. Secondary infection sometimes takes place and complicates the situation. You can well realize that poison ivy dermatitis is no joke! When the inflammation subsides the outer skin peels off and leaves new skin beneath.

It is a grave mistake to think you are permanently immune to poisonous plants because you have never had an attack. Actually you are not at all—you are merely unsensitized; therefore unsusceptible. Sufficient contact can, in time, break down your vaunted "resistance." Thereafter you may be in constant danger. For this reason do not demonstrate your hardihood by rubbing ivy leaves upon your skin, for to do so may sensitize you for the rest of your life to contact with any of these plants.

You should learn to recognize poisonous plants. Poison ivy and oak are practically the same plant. In the West poison oak grows tall and bushy but both plants have three notched and glossy leaves. In the spring the leaves are delicate scarlet; in the summer green, but in the autumn they turn a lovely red. If you unwittingly pick these beautiful leaves disastrous consequences may follow.

Rhus radicans is the most common poison "ivy" of the East and South. Through the Midwest and Middle South grows a poison "oak" that botanists call *Rhus quercifolia,* or "oak-leaved" rhus. Popular names include not only poison oak and ivy, but poison creeper, three-leaved ivy, picry and mercury.

Poison oak and ivy have been divided into these and a number of other species according to the shape of the leaves, habit of growth and other characteristics, but botanists do not agree on all the divisions. The common names, "oak" and "ivy," are applied indiscriminately—like most common names for native plants—to all the species except perhaps the poison oak of the Pacific Coast, *Rhus diversiloba.*

This Far Western variety has oak-like leaves and grows predominantly as a shrub, 3 or 4 or sometimes as much as 14 feet tall, but in shady spots it, too, appears as a creeper or climber like the Eastern varieties.

Sometimes, in the smaller varieties common outside the Far West, an effort is made to reserve the name poison ivy for plants with a trailing or climbing habit of growth or with leaves shaped like ivy. But actually most or all these species grow both as a small upright plant and as a creeper or climber, and frequently both "oak" leaves and "ivy" leaves may be seen on the same plant.

The simplest means of recognizing poison oak or ivy is that the leaves grow in groups of three. As a climber it may be confused with the Virginia creeper, which, however, has leaves of five leaflets and does not attach itself nearly so closely to the fence, wall or tree on which its climbs.

Poison sumac, *Rhus venenata* or *Rhus vernix,* is also called swamp sumac, poison dogwood, poison elder, poison ash and thunderwood. Its white or pale yellow berries are described as distinguishing it from the other su-

macs. A shrub of 10 feet or taller, it is found throughout the Eastern half of the country but, growing only in swamps and boggy soils, is less often encountered than poison oak or ivy. The "family" name, rhus, is the Latin word for sumac.

The poisonous principle, urushiol, is found not only in the leaves, but in the berries, stems, bark and roots of poisonous members of the family. Actual contact with the plant is not necessary because the resin can contaminate your clothes, shoes, walking sticks, the tires of your car or the hair of your dog or cat.

The fact that poisoning can be acquired by handling contaminated objects explains many a mysterious case. You may swear you have not been near the plants but your dog may have rolled in them in the yard or woods. Or perhaps you have changed the contaminated tires on your car, or donned last year's hunting suit!

It's good to know that poison ivy pollen is harmless . . . but the soot from burning plants in your garden bonfire may poison your skin.

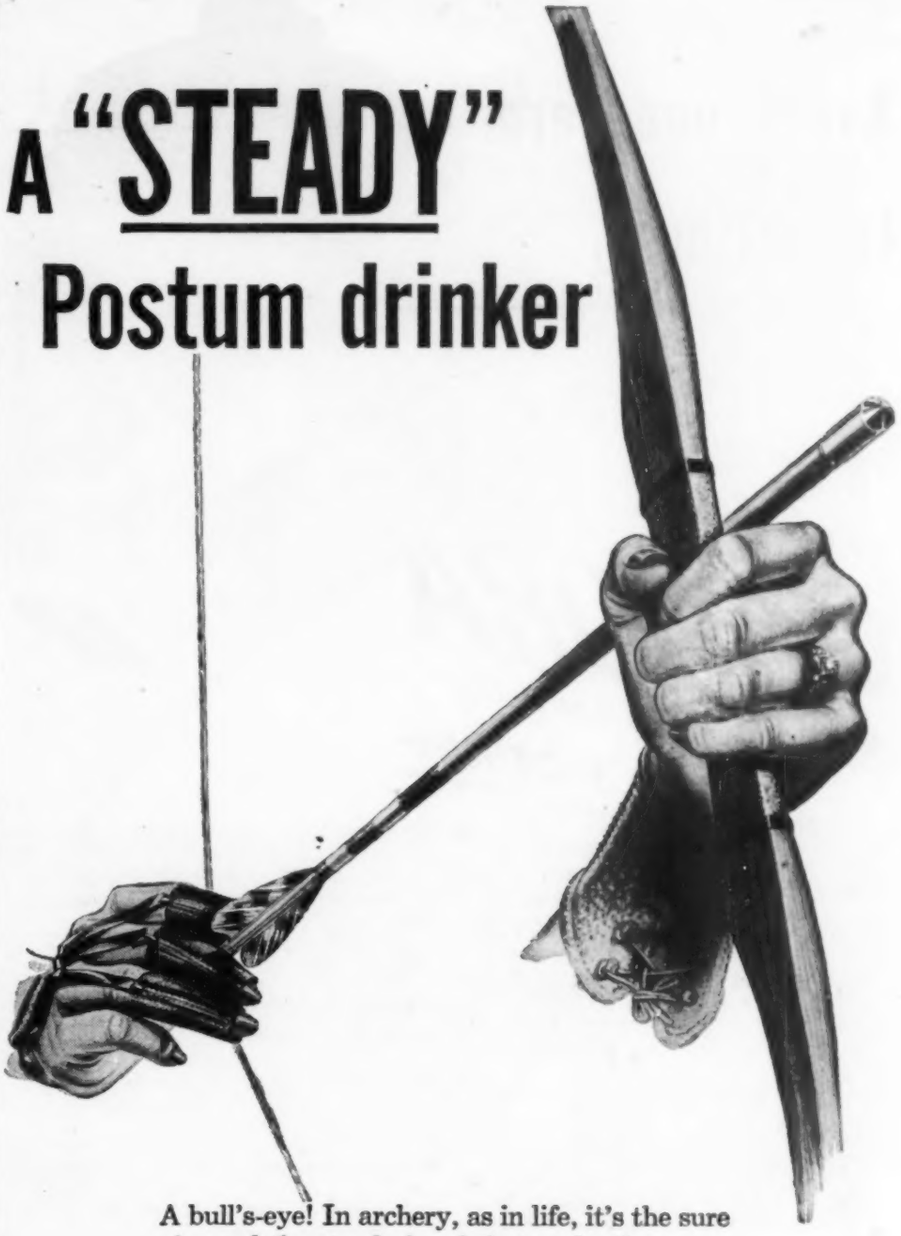
You may be interested to know that the juice of a related plant called *Rhus Verniciflua* or *vernicifera* (literally, varnish-bearing), which grows in Japan, is used as a varnish. This Japanese lacquer is a common cause of dermatitis and even the dried varnish on imported articles may prove poisonous. Back in the 1920's it figured in "mahjong dermatitis," and now it has caused the same sort of condition in persons with Japanese war souvenirs. The lacquered stocks of Japanese rifles, for example, have been a source of irritation.

There are more than a hundred other common plants which may cause *dermatitis venenata,* or contact dermatitis, as the dermatologists call this type of inflammation of the skin. The commonest offender, outside of the rhus family, is the common primrose or *Primula obonica,* but ragweeds, hyacinths, cow parsnips, chrysanthemums, hybiscus, rue and oleander, to name but a few, may also poison you.

To prevent poisoning you should, after an outing, take a thorough bath, preferably with yellow laundry soap, and you should also change and wash your outer clothing. Since the hair of your dog may be a source of poisoning, you should not pet him after you have been with him in the woods. Urushiol is soluble in alcohol; hence some authorities advise washing the skin with swabs of cotton wet in alcohol. But you should throw the swab away after each wipe in order not to spread the poison over your skin.

The U.S. Public Health Service has experimented with various protective

A "STEADY" Postum drinker



A bull's-eye! In archery, as in life, it's the sure aim and the steady hand that make the score.

Here are scientific facts you ought to know about the caffein in both coffee and tea: Caffein is a drug! It is a stimulant that acts on the brain and central nervous system. Also, in susceptible persons, caffein tends to produce harmful stomach acidity. So, while many people can drink coffee or tea without ill effect, for others indigestion, nervous hypertension, and sleepless nights result.*

*See "Caffein and Peptic Ulcer" by Drs. J. A. Roth, A. C. Ivy, and A. J. Atkinson—A. M. A. Journal, November 25th, 1944.

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ointments and recommends one made with an alkaline peroxide. This chemical is thought to oxidize the resin and render it harmless. The formula may be had from the U.S. Institute of Health.

Once dermatitis has developed it must be treated like any acute inflammation of the skin. A little of it is only a nuisance, though an especially cussed one; but if it involves large areas or makes you feel "sick all over," don't waste precious time on home remedies. A soothing application is compresses (of old muslin) wrung out of ice cold saturated boric acid solution; or compresses of Burow's solution, after diluting 1 part to 20 of water.

These dressings should not be applied to more than a third of the body surface since otherwise it may cause chilling.

The neocalamine lotion and powder of the latest United States Pharmacopoeia are good applications, especially when the trouble is subsiding. You should not use lotions containing carbolic acid over large areas of the skin because of the danger of absorption.

Vanishing creams are cooling and may be applied when the skin is dry but petroleum jelly is heating and, furthermore, may dissolve and spread the urushiol, which is soluble in greases and oils.

Intramuscular injections of a solution of urushiol are sometimes used both as a preventive and a cure. This treatment is controversial. Some doctors claim good results but others are skeptical. Such injections are not without danger because cases have flared up following such treatment. Many dermatologists do not use injections.

It would be desirable to eradicate poison ivy. Recently several chemicals have been discovered which, if sprayed on the leaves, will kill the whole plant. This is a great advance, because poison ivy is very difficult to eradicate by ordinary means.

The plant propagates itself by underground roots and the seeds are carried by birds. It is futile merely to cut down the plants for they grow again.

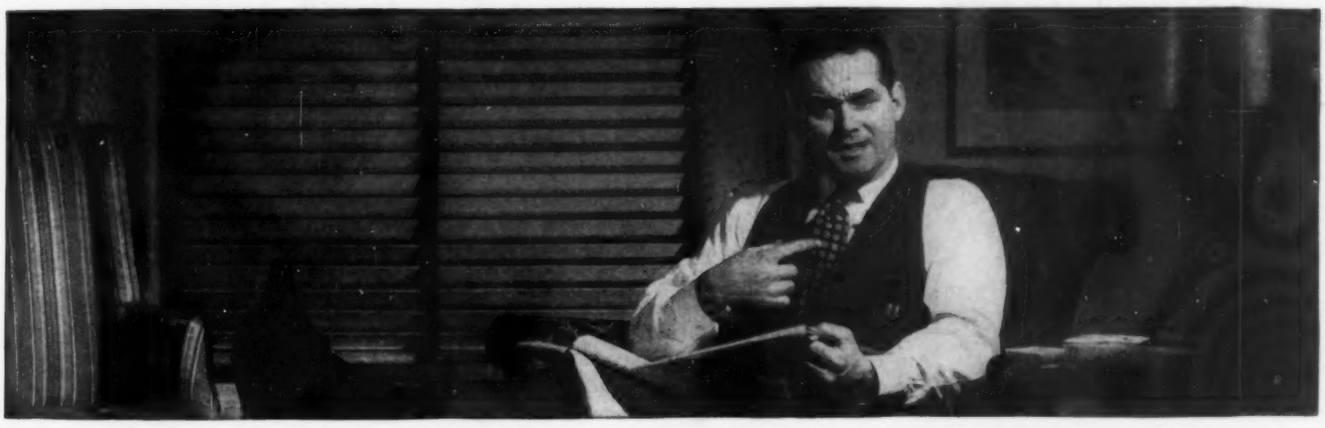
Two chemicals, ammonium sulfamate and one called, for short, 2, 4-D, will kill the whole plant, including the roots, if merely the leaves are sprayed. Neither is poisonous to animals or particularly injurious to grasses. Both are available commercially and sold with directions for use.

With them, for the first time, an easy means is available for ridding parks, door yards, roadsides and farms of noxious plants. Wholesale eradication should prevent many a serious case of poison ivy dermatitis.

Fallacies and Facts about Seeing

"Are railroad men's eyes better than others?"

NO! But railroad men observe many things that escape the notice of others. This ability of enginemen and trainmen to see and interpret signals instantly, and to spot dangerous or unusual conditions along the right of way, has played an important part in establishing the outstanding records of railroads for safe transportation of the traveling public. Railroad men owe their seeing ability not to "better eyes," but to their training and experience — with the help of regular visual tests and professional eye care.



"Will glasses alone improve my eyesight?"

NO! You, too, like the railroad man, should have "seeing ability" to meet *your* visual requirements. You may not be able to achieve this unaided, and the only way to make sure is to seek professional guidance. Glasses alone will not improve your visual skills. Important as glasses are, their aid to your visual comfort and efficiency depends upon the professional services and technical skills of your Ophthalmologist, Optometrist, Ophthalmic Dispenser (Optician).

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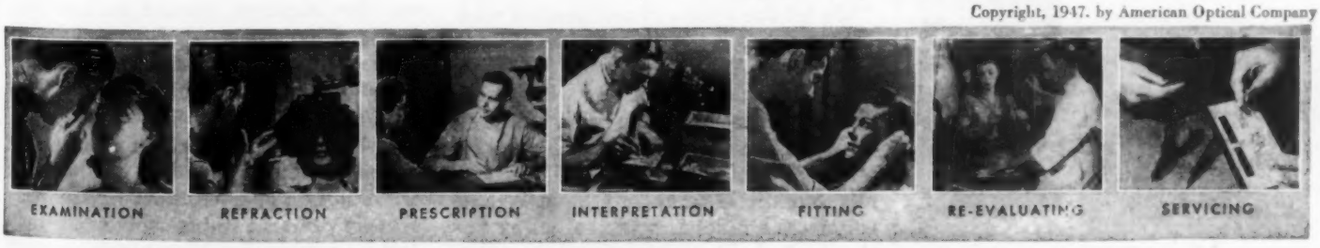

Professional services and technical skills such as these are essential aids to your seeing ability — your eye comfort, your visual efficiency. It is for these services and skills — not for glasses alone — that you pay a fee. "*Seek professional advice — not glasses at a price.*"

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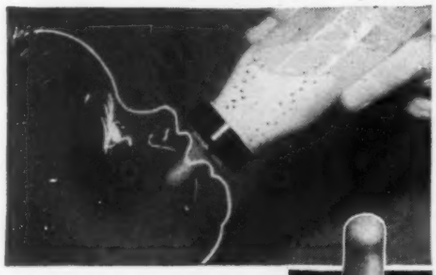

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Is Your Child Good

(*Continued from page* 677)

of attempting to change the situation. We have to help our children to face pain and disappointment by agreeing that it is hard—not by pretending that they don't care.

These youngsters to whom life is too painful often resort to day dreaming. They build up a fantasy life and escape into it at every opportunity, instead of using it as an occasional release as most children do. Again the mother is liable to be fooled into thinking her child is happy because he seems content to look at books or stare into space for hours at a time, when actually he is missing all of life's experiences.

The cure for these unhappy youngsters consists in re-establishing their right to express their feelings. A good nursery school, where the meek child is recognized as one who needs special help, is an ideal environment for transforming this too submissive behavior into actions more appropriate to his age. There he is encouraged to say what he thinks and act as he feels. If a scraped knee hurts, the sympathetic teacher will let him howl, even though it would be more manly to bear the pain in silence. If a bolder child snatches Molly's bucket, the teacher will encourage her to grab it back in spite of the fact that the children are supposed to learn to share the equipment.

Courage, charming manners and scrupulous neatness are important lessons, of course; but we cannot teach them successfully if we deny that every child has strong feelings running in the opposite direction. We have to admit that children haven't our concept of time, that they adore making noise and getting dirty; and that rage, sorrow and pain exist within them. By acknowledging these truths we are in a position to teach control.

With the good child who has almost forgotten how it feels to follow his impulses we have to be completely indulgent for awhile until he learns to act freely again.

We let the lesson of self control wait until he has a chance to experience for himself the intensity of his emotions and understand what it is that he has to handle. While other children are occasionally being asked to make a sacrifice or accept a denial we permit our little angel to have a free reign. We indorse practically any action he feels like taking, providing that it does not hurt another child.

This is likely to be exciting! The pent-up emotions usually burst out with such force that the child is temporarily transformed into a veritable hellion.

But we are not finished with him. It would be a serious mistake to leave him here, glorying in the impression that it is all right for him to "express himself" as freely and as frequently as he likes. When he has thrown enough blocks around and taken enough pokes at the other youngsters to know his own strength, then we start to teach him self discipline. Instead of forcing him to submit to authority, we show him how to follow the routines willingly, how to control his rages, and how to accept defeat philosophically. The pendulum of behavior always swings far over to the opposite side when a mild, good, clean child suddenly finds that he doesn't have to keep himself in check—freedom goes to his head and renders him fairly obnoxious until he settles down to normal behavior.

Of course a nursery school is not essential to the success of this plan for bringing about a change in the good child, but since the cure as described is bound to be more than slightly wearing to the parents they are apt to regret that they didn't leave the situation alone. A mother's patience will hold out much longer if someone else is putting up with his actions for part of the day.

Accept the fact that it is natural for children to feel hostile and aggressive at times, even towards the people whom they love. We shouldn't expect children to know how to control their anger or bear their disappointments bravely—expressions of their struggles to master these feelings are bound to be frequent. If they aren't —something is wrong!

Even a happy life of a child is full of frustrations and denials; no cookies before lunch, no slapping baby sister even if she is a pest, no playing with mother's things. It simply isn't natural for children to accept uncomplainingly the hundreds of things they are told to do and the thousands of things they are told not to do. It is normal and healthy that they should rebel occasionally and require our help in order to tolerate the conditions under which they are living. Protests against naps or sporadic refusals to eat, for instance, should be accepted by a mother as a part of normal development—not trampled out of existence the minute they threaten to upset the routine.

Every mother should expect to be called "stinker" once in a while. She is, first of all, a comfort and a protection; but at times she can't help but be a very annoying block between her child and what he so intensely desires. A mother must plan to lend her support to her child while he slowly acquires such adult virtues as patience and tolerance for himself.

Watch out for the child who always plays quietly by himself, who never fights, or talks back, or complains or

protests. If your commands are always obeyed, if your child is just like a little adult around the house, never getting into trouble and needing your help, you had better take immediate steps to destroy this unnatural calm! It seems a shame to tell you to undo deliberately the peace you have so carefully built up. Perhaps it seems as though it will be making progress backwards to encourage naughtiness after your youngster has learned to be good—but for the sake of his self confidence and independence in the future, alterations are necessary now. He must enjoy childhood today in order to achieve maturity tomorrow.

Remedial Reading

(*Continued from page* 697)

found a satisfactory explanation for this in any of the literature on reading. So, if your child is a boy, you might be on the alert.

When I taught first grade, I asked the parents to have the child's eyes and ears tested before beginning reading. I gave standardized Reading Readiness Tests to find out if the child was mature enough to begin to learn to read. I planned activities to foster reading readiness. I gave the children opportunities to talk, to plan, and to discuss their activities for speaking clearly and fluently are aids in beginning reading. My conference with each parent was aimed at finding out if there was any mixed dominance, delayed speech, clumsiness in routine dressing or other indication that reading trouble might develop.

There is, unfortunately, no foolproof way to find out in advance which children will encounter trouble in learning to read. With the above information, teachers can pick out the children likely to have difficulty.

The teacher can also encourage these children and give them feelings of success and personal worth in other fields and at any rate not add to their reading difficulty with personality difficulties. Teachers can encourage parents to seek outside help if the child has a severe enough difficulty that he has not learned to read by the end of second grade, that is if there is not any extra help provided in the school system. Many public school systems and most private schools (particularly boys schools) are now providing remedial reading teaching in the schools and more would provide it if parents put enough pressure on school boards. Knowledge that the basic trouble is not "stupidity" but a reading difficulty for which the child is not to blame is the first requisite toward giving him a chance for natural and happy development and saving his productive talents, which may be considerable, for society.

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War on Postwar Pestilence

(*Continued from page* 681)

and the lines of march. Next food was placed all along these routes. It seems rats are both fixed in their habits and suspicious of the new and different. They must have a sense of security to be tempted. So for five days the food was rat ambrosia. The sixth it was poison. Death came to almost the entire rat colony in one night. The remaining few were rewon with fresh forms of bait and then got their poison.

In China, plague made sporadic appearances, but was kept relatively well under control with rat poisons and DDT. Cholera, however, is another story. It is endemic and spurts up every spring and summer. In the chaos of war, it became epidemic.

A call was issued for help early in 1945, and a team of physicians, engineers and cholera vaccines were dispatched over the hump from India. One planeload of supplies was lost.

The next spring cholera made its seasonal appearance even earlier than usual and soon sped across China and up into Manchuria. Supplies for water purification, huge quantities of vaccine, the materials for preparing the intravenous liquids so effective in treatment, and the apparatus for injecting these liquids were flown across the Pacific directly from Dayton, Ohio, to Shanghai. The wave was broken earlier than expected. Many lives were saved. In the accessible cities, mortality was only half that of the inaccessible outposts. This year ten times as much equipment and supplies are available.

The most serious infectious disease in Europe in '47 is tuberculosis. Its death rates are at least double the prewar level; its incidence also greatly expanded. In Greece today, for example, there are fifteen times as many cases of tuberculosis as in the United States.

One of the tragedies of tuberculosis is that it strikes most frequently at the young. TB of the bones and joints is killing and permanently crippling thousands of Europe's sorely needed next generation. With proper treatment these children could grow up to be healthy, useful citizens. There has also been a significant upswing in graver pulmonary tuberculosis among children.

Control of tuberculosis is mainly dependent upon x-ray clinics for widespread examination to locate cases, hospital beds and sanatoria to isolate those infected, a trained staff to educate for prevention—and good, nourishing food. Europe does not have nearly enough of any of them.

The outlook has been made a little less bleak this past year by speedy and sure diagnosis by mass radiology, and the arrival of an enormous amount of hospital equipment, including beds.

Tuberculosis goes hand in hand with underfeeding, and underfeeding undermines all of Europe. Though major famine has been prevented so far, millions are living on a diet barely sufficient to keep adults on their feet and to give children their normal growth.

Insufficient quantities and the wrong kind of food cause cases of rickets such as those reported not long ago from a Sarejevo clinic. After six months of supplementary feeding, the children still had nubbles on their ribs like a string of beads. A nutrition consultant pointed out one child to an American newspaper woman:

"You can see what we mean when we say the signs of rickets are the head of a professor, the chest of a greyhound, the belly of a pup, and the legs of a grand piano."

The woman saw, and so reported.

In its less serious form, underfeeding causes mental and physical fatigue, a restless apathy, a lack of luster in the eyes, dry skin—and a tendency to be keeled over by the first infectious disease that comes along.

The fact that pestilence has been successfully curbed has not depended entirely, however, on mountains of medical supplies, and the direction of their use by experts. The epidemiological information network has also been vastly important. This service is a sort of international "weather bureau," whereby incipient epidemics are spotted and charted like a hurricane, and health bureaus around the world are notified. The epidemiological bulletins and cables contain official information transmitted under the International Sanitary Conventions for Maritime and Aerial Navigation. Before the war the conventions were administered from Paris, but with the Nazi occupation, the work almost ceased.

In January, 1945, UNRRA, as the international health organization to bridge the war-caused gap in health work, took over the administration of these conventions, brought them up to date and issued reports and cables regularly until the work was transferred to the Interim Commission of the new World Health Organization in December, 1946.

The new World Health Organization is also taking over some of the other UNRRA health activities in the invaded countries now that the emergency organization has been abandoned. WHO will continue the training of health personnel through fellowships and teaching, will advise and assist with control of malaria, tuberculosis, and other diseases, and will send missions of experts into nations with compelling needs. In many

countries, UNRRA drugs and medicines were insurance against future serious outbreaks of disease.

Dr. Wilbur A. Sawyer, the eminent medical scientist who headed the UNRRA's health division, sums up health in a world only two years out of the most devastating war in history in this way:

"World health is better than we ever hoped it would be. Medical science has no document of unconditional surrender to show, no signed and sealed peace treaties, but public health and the medical professions have been perhaps the greatest victors of the war and postwar periods."

MINNEAPOLIS SWATS TUBERCULOSIS

Minneapolis has embarked on the noteworthy undertaking of obtaining a chest x-ray examination of every adult in its population of a half million under sponsorship of the Hennepin County Medical Society and the County Tuberculosis Association. An entire issue of the *Journal-Lancet*, published in Minneapolis, was devoted to the campaign.

Beyond its primary function as the key to tuberculosis control the survey is expected to bring valuable gains in early detection of other chest conditions including some forms of heart disease and cancer. Experience at such institutions as the University of Chicago, where chest examination by x-ray of all patients has been a routine practice for some years, has shown results in the discovery of these conditions that alone, many physicians believe, more than justify the practice. The percentage of persons with unsuspected tuberculosis thus discovered has been higher than the percentage of unsuspected venereal disease disclosed by premarital tests.

The Minneapolis survey in its first month put a strain that had been fully anticipated on the existing facilities for the care of the tuberculous. Before it began the local sanatorium had been compelled by personnel shortage to close some floors. When the campaign got under way the institution had to limit admissions to infectious cases and those requiring surgical treatment.

Nine x-ray units have been kept constantly busy. City and state health officials, the sanatorium and the Tuberculosis Association collaborated in providing family physicians with the facilities to complete diagnosis. Planning has been furthered by a medical technical committee representing the Medical Society, the Tuberculosis Association, the city and state health agencies, the Medical School of the University of Minnesota and the public health nurses.

In 1779 . . . Napoleon's soldiers, while digging trenches near the mouth of the Nile, unearthed this strange "Rosetta" stone. The inscription was written in three different sets of characters — Greek, Egyptian, and an unknown third language. For this "key", scholars were able to decipher the strange inscription and thus discovered the meanings of ancient Egyptian writings.

MARKS WITH MEANINGS

In 1947 . . . Many manufacturers use the Wisconsin Alumni Research Foundation Seal to attest the Vitamin D content of their products. The seal guarantees that these products are tested in the Foundation's laboratories at regular intervals to make certain they measure up to its high standards and rigid requirements. For more than 15 years the medical profession has advised its patients, "Look for the Foundation Seal" when buying any product with Vitamin D content.

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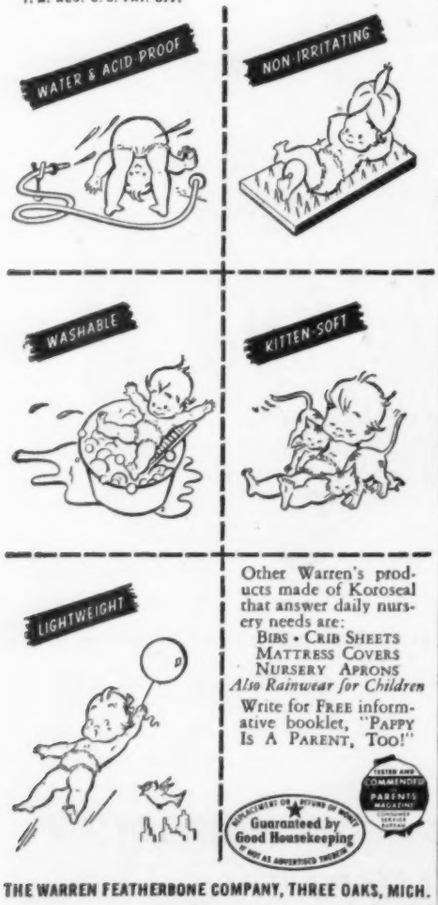

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New Trails In Medicine

(*Continued from page* 675)

financial status. The unsolved questions of an economic nature are being approached with the same sense of scientific objectivity, free from emotional heat, as science utilizes in its laboratories and clinics.

American doctors are concerned about the role of their profession in case of a national emergency. The Association has recently conducted a survey of the experiences of doctors during the last war. This information should be of value in drawing up a plan of action in case another emergency should arise.

Medicine is international in scope. In recognition of the distinguished contributions which the American Medical Association has made to medical science approximately one hundred renowned doctors from far corners of world have come to pay tribute to the doctors of our nation, and to discuss with them the principal problems which are facing the profession today.

Experiences in other lands are being compared with the observations of doctors in the United States. All the pros and cons of the interpretations of disease and the various causes are being aired. A consideration of the most satisfactory measures of treatment logically follows. In this way the public in all of the countries represented at this great convention will be the benefactors of these medical meetings.

To facilitate international exchange of health information, the control of disease, and medical research, a world medical association is now in process of formation. American doctors are deeply interested in this worthy project. Recently two distinguished members of the Board of Trustees of the American Medical Association flew to London to attend an organizational meeting with representatives of other lands.

As international bonds are strengthened in the fields of science, medicine, the arts, and culture, a better understanding will be brought about for people of the various nations of the world. As the leaders in the medical realm communicate with one another across national boundaries, they bring to their own people the benefits of research and investigations in the fields of medical science which will improve the health of the various populations. When folks understand each other and contribute to the welfare and happiness of members of the family of nations, the irritations and misunderstanding that cause so much unhappiness should be more susceptible of compromise.

Doctors are vitally interested in the broader problems of national security and international stability. The American Medical Association is vigorously engaged in promoting the dissemination of information that will improve the health of the people of all nations.

American medicine is blazing new trails; it is moving in forward directions to a day of better understanding and finer health for people near and far. The leaders of medicine in the United States, supported by a superb staff of highly qualified colleagues and experts in the various special fields of administration, health education, medical economics, legislation and research, are throwing all their energy into the search for more adequate control of the disorders that destroy health and shorten life.

The American people can rest assured that the doctors of the nation will continue to find new methods for the control of disease, improved measures for the public health, and an enlarged scope for the enjoyment of human existence. To these high aims the American Medical Association dedicates its interests and support.

THE SQUIRT CAN FALLACY

We're starving ourselves into "one of the greatest wholesale disappearing acts in history," two Virginia physicians declared in a paper on health and the soil, published in that state's *Medical Monthly* and reprinted in *The Diplomate*.

The physicians proposed establishment of a research laboratory, composed of physicians, chemists, soil scientists and agronomists or experts on soil and crop management, "to find out the relation between the large increase in deficiency diseases and the soil on which the food is produced." The sciences of health and of the soil, they said, must be correlated to produce quality foods rather than merely quantity.

"We have positive evidence that deficiency diseases are increasing in both plants and man," they said; "but, for some reason unknown in the most scientific nation of the earth, there has not been a general recognition of the cause and source of these deficiencies.

"We know when a gas tank on an automobile is empty we can keep the motor running by supplying gasoline in the carburetor with a squirt can, but the common sense thing to do is to replenish the supply of gas in the tank so the motor can feed itself.

"The deficiency diseases in animals and man are being treated by supplying minerals and vitamins in capsules, which is just as ridiculous as the squirt can method of keeping the gas engine running. Doctors and chemists must recognize the basic fact in nutrition that the source of all vitamins, minerals and food is the soil."

Remedying Defective Speech In Childhood

(*Continued from page* 691)

case may demand tests of mental ability or aptitude, skill in reading, personality, or physical condition. Several or all of these studies may be made by other departments to assist the Clinic in an accurate diagnosis for each child.

Janet, 14, was another case in which the defect seemed serious, but the remedy was simple. She had a very bad lisp and used sounds for "s" and "z" that were not at all correct. In the course of questioning, the examiner tried to find out whether Janet could tell the difference between her substitutions and the correct sounds when she heard them. The girl had no difficulty distinguishing the sounds from each other, but she had the idea that the correct sounds were wrong. She believed her incorrect substitutions were the right ones. It was simple for the examiner to straighten out the problem in her thinking.

According to Dr. Wells, the greatest number of defects among school-age children are generally articulatory. Lisping, falling under this classification of speech defects, is probably most common.

In dealing with lisping or other problems, the Clinic at the University of Missouri has been chiefly diagnostic. Examiners try to determine specifically what the trouble is in speech and, insofar as possible, why it is present. After the analysis is made and therapy recommended, the remedy may be effected quickly with parental cooperation, or only with long and arduous training. Remediation of a serious defect may not be achieved without specially trained, skilled instruction all the time.

Parents who know how a child suffers from the ridicule of playmates "because I can't talk plain" are discovering in Missouri and other states that something can be done. The benefits of prompt speech correction will influence the future life and career of every child suffering from defective speech.

YOUR JOB FUTURE

An attractive leaflet to assist girls in college in preparing for a job has been issued by the Women's Bureau of the U.S. Department of Labor.

It suggests that college women consult counselors and advisors, testing facilities, employment bureaus, the libraries and acquaintances in various occupations, and use summer jobs, part-time work and campus activities as "try-out experiences."

"Don't try to choose between marriage or career," it urges. "Get ready for both home and job."

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APPEARING THIS ISSUE PAGE 655

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Watch Your Step, Grandma —And You, Too, Grandpa

(*Continued from page* 687)

points for elderly people at home?

Waxed floors on which small rugs have been placed constitute a trap for the unwary. The turned-up edge of a rug or carpet, a hole, a tear, a wrinkle or a bulge in the rug spells danger for the old person. Stepladders and, even worse, makeshift substitutes for stepladders threaten the bones of all who climb on them. The bathtub may be as dangerous as an oncoming automobile.

Misplaced articles of furniture are hazardous to the aged person whose eyes aren't what they once were. Packages carried in the arms, blocking the view, may mean death to the person whose sense of balance is below par.

The eyes of old people may not be able to discern a small toy or a piece of paper lying on a polished stairway. Poor illumination in rooms, corridors and stairways is responsible for many, many injuries. People have sustained broken bones from falling out of bed. (In fact, it would be a boon to many people if no beds were more than a foot and a half above the floor.)

When Grandma or Grandpa goes out of the house, she or he is presented with new dangers. Every stroll with the dog carries the possibility of a wrist broken by the dog's leash. Every time a person steps in or out of an elevator, he runs the risk of tripping over two uneven surfaces.

The automobile injures a million people every year, and many of the injuries affect aged persons. Among frequent injuries due to the auto are sprains sustained in getting into and out of the car, as well as fractures, dislocations and crushing injuries sustained in crashes.

Streetcars and busses present similar hazards. Hotels, theaters and churches all have their danger zones.

How can some of these injuries be prevented? A number of minor precautions, if dutifully followed, can save Grandma and Grandpa many a day in hospital and wheelchair. For instance:

See that small "scatter" rugs are securely tacked down and that no holes or wrinkles appear in large rugs and carpets.

Don't climb — leave that to the young folks. Say to yourself once each day, "Every time I stand on a box, a stool, a chair or a stepladder, I take my life and my limbs in my hands."

Light the house well.

Don't leave objects lying about on the floors and stairs.

Don't carry armloads of packages around.

Be especially careful in the bathroom. Porcelain and tile bathtubs are slippery, and while a rubber mat on the bottom of the tub is a safeguard, it is by no means thoroughly dependable. In one of the most famous hotels in the world I nearly broke my neck while taking a shower, when the rubber mat (with suction cups) slipped in the soapy tub. The mat should be rough. There should be handles placed at strategic spots so that older people can grasp them when getting in and out of the tub. The best idea is the bathtub with a door in the side.

And, above all, watch your step!

Among the mishaps of which I have personal knowledge, a few are representative of what can happen to the old person who doesn't watch his step.

Mrs. A., who lives in a small apartment, came home from a shopping tour to find the maid had hung her curtains during her absence. One of the curtains was not quite straight. Mrs. A. hauled out a small stepladder, climbed up to fix the curtain, fell and suffered a fracture dislocation of her left shoulder.

Mrs. B. stepped out of her daughter's auto, turned her ankle, fell and fractured her left hip.

Mr. C. slipped on the ice and broke his right thigh bone.

Mrs. D. slid on a small rug on a highly polished floor. She landed on her outstretched hand and broke her wrist.

Mr. E. was tugging at some article on a high shelf. He fell backward, landing on his back, head and elbow. His right elbow was fractured.

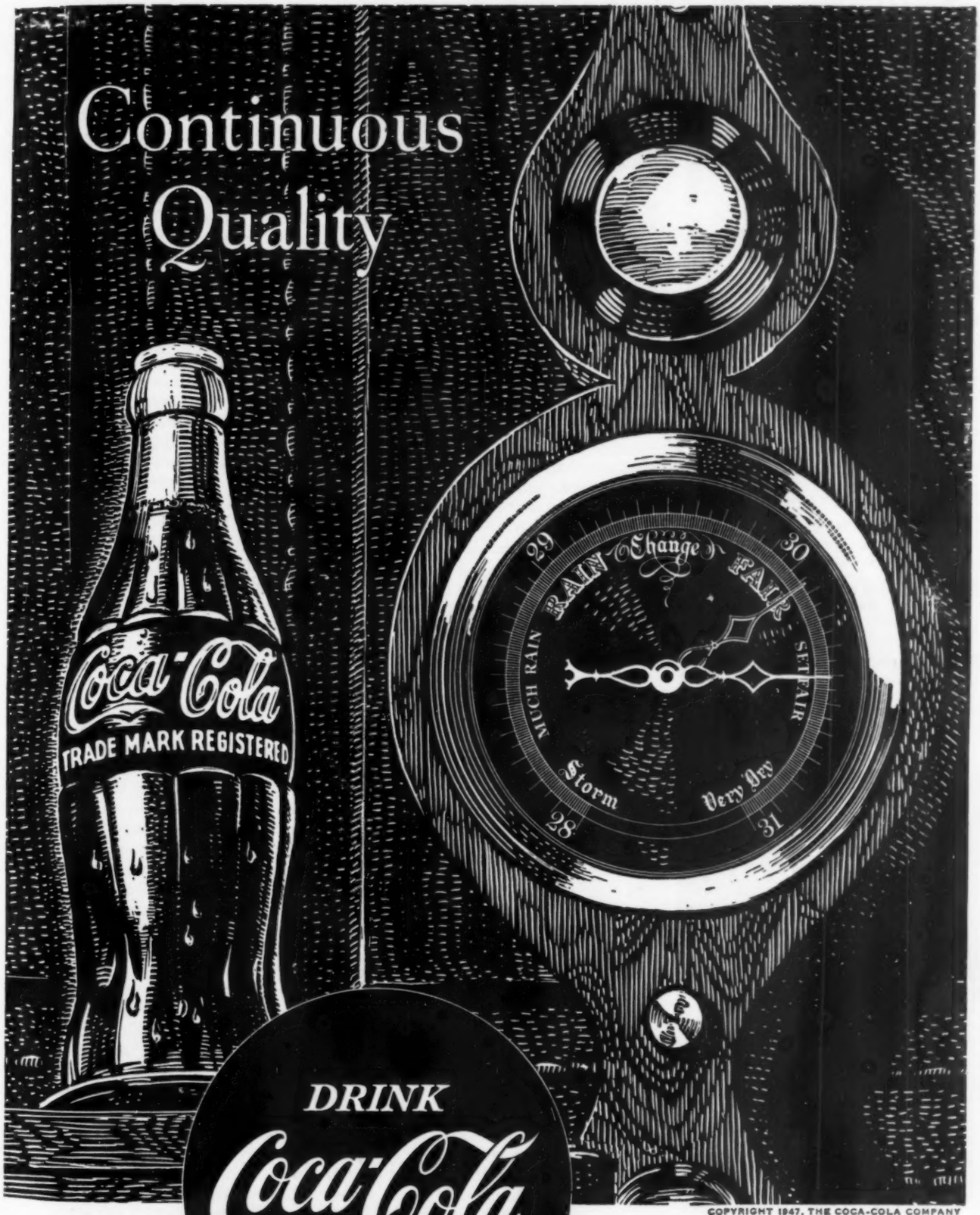
Grandma F. was carrying a few light cardboard boxes down a flight of stairs. She couldn't see the stairs too well, so she fell, landed in a sitting position and fractured her coccyx or "tail bone."

Grandpa G. slipped in the garage, fell and broke his left kneecap.

"Old age is an incurable disease," said Seneca, and so it is. But it is also a condition or situation with which we can live in comfort for many years. Premature death or disablement from the result of a foolish accident is a waste of life. In the case of many older persons, premature disability or death is a waste of some of the country's most important assets. We can reduce this waste—if we try.

GREATEST

The Centennial meeting of the American Medical Association at Atlantic City, in June, for which newspaper reporters were expected was "covered" by 70. Between 12,000 and 15,000 physicians were expected to attend and registration actually totaled 15,667, making it the greatest medical meeting ever held anywhere in the world.



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Undulant Fever

(*Continued from page* 693)

disease is rarely transmitted in nature from hogs to cattle. Interestingly enough, cattle do not infect hogs except perhaps when the cattle are suffering from the swine form of the disease.

Breeders should remember that their herds can be infected at fairs and showrooms, and that visitors to herd lots might carry infection on their feet, though this danger is probably not great. Owners of dairy cattle should become familiar with means of eradicating herd infection. They should contact their local or state veterinarian, or the state school of agriculture, for the purpose of learning what the requirements for the particular area may be.

Since it is impossible to be absolutely sure that a given milk supply may not be occasionally contaminated, it is equally apparent that milk sold for consumption in fluid form should be pasteurized, except when special care can be given to the eradication of both Bang's infection and tuberculosis. It is also obvious that pasteurization of milk in cities alone will not suffice to protect human beings since most farm families consume raw milk from their own cows. The need of home pasteurization should be considered by farm families, and certainly they should practice it unless sure that their cattle are free of infection.

With recent improvement in technique for identifying the various strains of the germ, a new problem has been turned up. We have been putting the blame upon Bossy the Cow, when the greater danger has been from a different source—namely Porky the Pig. There is substantial evidence to indicate that as much as 70 per cent of the human infections observed are of swine origin, caused by *Brucella suis.*

This may seem improbable since we do not use the milk of swine as human food. How then is the human being infected?

Recently we have realized that the disease may be transmitted by the handling of the animal, by contact with the mud or dust in the hog lot, by contact with the warm fluids of the recently slaughtered carcass, and possibly by contact with the meat as it is handled in the kitchen. This is a new aspect of the whole problem; an aspect, incidentally, which can be expected to be more difficult than the control of the bovine infection, which consists largely of pasteurizing the milk supply.

It is a peculiar fact that brucella infection differs widely in the different animals which suffer from it. We have described the disease in cattle—it is much the same in goats and sheep, though there are some differences.

In horses it is quite different, in that it does not cause abortions, but usually is seen in the form of a localized abscess at the two ends of the long ligament that holds up the horse's head. When the abscess is at the upper end of the ligament, we refer to the infection as "poll evil"; when it is at the lower end, it is called fistula in withers, fistulous withers, or simply fistula.

Farmers or veterinarians treating such a lesion are in imminent danger of infection. There is some reason to believe that dogs, rats and possibly other small animals may occasionally suffer from the infection.

The disease in swine is likely to manifest itself as a septicemia or "blood poisoning"; as an arthritis that may localize in a particular joint or migrate from one joint to another (creeping arthritis); as a cause of abortion early in gestation; as a cause of abscess formation (abscess of the testicle is common); and as a localization in the bone marrow, particularly of the bodies of the vertebrae.

Surprisingly it is more likely to be found in valuable herds than in grade animals. The reason is that valuable animals are more likely to be exposed in animal shows, and are more often bought and sold from farm to farm, or even from state to state. Extremely valuable, pedigreed stock can easily be infected in this way. Grade herds and "razorbacks" are less frequently exposed and therefore less commonly involved.

The battle against infection in hogs is difficult. The habits of the hog are such that he is easily infected, length of life is short, the animals relatively small, and the process of eradication requires the handling of a great many animals. The value of a particular animal is such that the effort of saving it is expensive in relation to its worth.

A further difficulty is that the disease does not seem as important to the farmer when it is in his swine as when it is in his cattle. Farmers sometimes have the infection among their hogs for a long time without becoming conscious of their serious economic loss.

Transmission to human beings may occur in several known ways, and it seems likely that there are also other means that are not at all understood or appreciated. The farmer or veterinarian who takes care of a diseased animal as he drains an abscess, castrates the males, helps to deliver a sow or cow, or removes a retained placenta, is definitely in danger unless he uses rubber gloves and is very careful in washing his hands afterward. Even with the utmost care, he may become infected.

The farmer or the slaughterhouse operator butchering a diseased animal

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is in danger as he handles the tissues while the warm fluids are still flowing. One will say that the diseased animal should not be butchered, but it may be impossible to know that the animal is diseased. The meat cutter or the housewife may possibly be in danger as he or she handles pork products, if they were quick frozen immediately after killing.

There is still some doubt as to the possibility of contamination from cuts of pork as bought at the meat market. It seems that the germs may be alive for a rather long time in refrigerated meat, but as a rule the number of bacteria is too small, or the contact too remote, to cause infection.

It is entirely possible that the new method of cutting meat with a bandsaw is an additional source of danger. When the handsaw was used little bone dust was produced. Pork chops, for example, were cut between the ribs and then the joints broken with a cleaver. Now the chops are cut, as often as not, through the bodies of the vertebrae, and a great amount of bone dust is left on the chops. The germs are most abundant in the bone marrow, which by this means is spread about.

It is not yet certain that this is a source of infection of the meat cutter and the housewife, but there is a sharp possibility that such may be the case. It might be well if the housewife would scrape the dust off the cut without touching it.

Once the meat is cooked—even a little—there is no danger. It is true that no one would wish to eat the flesh of a diseased animal, but aside from the esthetic objection, there seems to be no reason for complaint. Studies should be made to determine what effect the various methods of preserving the meat may have on the possibility of infection. Refrigeration almost certainly keeps the germs alive a long time, but it is probable that other methods of processing have the opposite effect.

To be concluded in the October issue of HYGEIA

Baby Knows Best

(*Continued from page* 695)

is to stop giving the 2 a.m. feeding when the baby stops asking for it.

Though in general all babies from primitive times till today are alike, yet no two babies are ever exactly so. Individual difference is the great law of all nature and it applies even to twins.

If you let the baby follow his own individual rhythm the first few days, he will learn that food is forthcoming on call—and his call is positive indeed—to satisfy his hunger. He will learn that he can depend upon someone to care for his needs and that he simply does not have to struggle and cry for long periods before he gets attention.

This will give him a fine sense of security and confidence in the world and will affect his future personality. Soon he will adjust to a three or four hour schedule, using the one that best fits his individual pattern.

As time goes on, continue to take the hint from baby. If he wants to hold the bottle or cup or spoon, let him do it. Don't discourage efforts at self feeding no matter how messy the result may be. But don't force him to feed himself. Help him along and let him help himself. Make it a calm happy, enjoyable time, but remember that your main objective is to feed the child. All the child's efforts and interests in self feeding are steps in growing up and should be encouraged.

Now about the cereal-feeding struggle. Why does your baby persistently push the food out with his tongue? Why does he get angry and howl if you keep forcing him to swallow?

If solid food is put to the lips of a newly born baby he will push it out. By the age of three to four months he has developed a different behavior. When thick, smooth, warm food is put to his lips he accepts it and uses his tongue to push the food to the back of his mouth, so he can swallow it.

If your child refuses solid foods, you are only frightening and annoying him by using force. It's only that he is not yet matured to the point where he can take his cereal. Try again next week. Wait a few days and try again, but do not force! Wait until he takes it willingly. Not to do so is like trying to force a growing flower to unfold by forcing open the bud instead of letting it unfold naturally when the proper time and conditions arrive.

When you notice your baby making chewing motions, at about the age of 6 months, give him lumpy or solid foods. This is the best time to help him form good chewing habits.

When your baby is about a year old he may give up his late morning nap. This is the time to change him from four to three meals a day and let him do his napping in the afternoon.

Your baby should enjoy all his meals and eat with appetite. Appetite is pleasure associated with eating. Appetite helps your child select the food he needs and tells him when to stop eating. If children are presented with nutritious foods containing elements essential to growth, cooked in a plain, simple, natural way, they will select the kind and the quantity they need, find pleasure and satisfaction in their meals and not develop feeding problems.

If you study your child instead of the clock, if you take the cue from him, if you realize that in his body are the inherent urges that have carried the chain of life from ancient

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man to him, you will respect your child's abilities and help him form fine eating habits and attitudes. Remember that baby knows best!

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ANSWERS

1. No	11. Yes
2. No	12. Yes
3. No	13. Yes
4. Yes	14. Yes
5. Yes	15. No
6. Yes	16. No
7. Yes	17. Yes
8. No	18. No
9. Yes	19. No
10. No	20. No

Will Ross and the Rehabilitation of the Tuberculous

(*Continued from page* 699)

tuberculosis often has destroyed a kidney, parts of bones, such as the vertebrae, or the greater part of one or both lungs before it is called to the attention of the host.

There are no sensory nerve fibers in human lungs. Therefore, chronic disease may exist a long time and progress to extensive proportions before its victim suffers pain. Indeed, this symptom is not present until the pleura or chest lining, which is richly supplied with sensory nerve fibers, becomes involved.

Man is endowed with approximately eight times as much lung capacity as he ordinarily uses; therefore, much of one or both lungs can be involved by chronic disease before he experiences shortness of breath.

Tuberculosis attacks the lungs in a serious way more frequently than any other part of the body.

These three facts are responsible for the frequent finding of well advanced disease in the lungs when the tuberculous victim first reports for examination. By this time the progeny of the tubercle bacilli which originally started the disease are present in billions. Destruction is so great that the rehabilitation of the lungs themselves to reasonably satisfactory function is often impossible.

Physicians make desperate efforts to stop the progress of the disease but they begin with a great handicap because no drug is yet known to destroy tubercle bacilli in the tissues of the human body. Streptomycin apparently suppresses the activity of tubercle bacilli and it now seems possible that a drug may be found that will destroy them. Meantime all we can do is to offer support to the body's defense mechanism, which obviously has already been partially defeated.

Although the support which the physician provides by way of general building up of the body and immobilizing the diseased part through various methods of collapsing the lung is effective at least temporarily in some cases, all experience of the past bears testimony to the fact that the majority of advanced cases are not permanently restored to good health.

In the past about 50 per cent of the tuberculous patients in hospitals and sanatoriums never recovered sufficiently to do any kind of work, partially because their disease was too advanced to be treated successfully on entrance. Another 30 to 35 per cent did not need any special assistance in rehabilitation. They consisted of housewives, who returned to their homes and resumed their usual duties when able, and of persons who returned to jobs previously held. Therefore, only 15 to 20 per cent of hospitalized tuberculous patients became eligible for or require any aid in their rehabilitation.

There is also a small percentage of patients who do not really belong to the group because they were admitted to institutions and treated for only the first infection type of tuberculosis or for nontuberculous conditions. No organization should take credit for rehabilitating such persons as far as tuberculosis is concerned. When they are eliminated, we have left not more than 12 to 15 per cent for rehabilitation in the strict sense of the word.

This fact should be clearly understood for there is a tendency to overemphasize the rehabilitation needs among the tuberculous. Many believe that the relapses of patients whose disease was arrested under the care of private physicians or hospitals occurred because they did not do the right kind of work and did not have proper guidance. They overlook the fact that tuberculosis is by nature a relapsing disease.

Anyone who has had a wide experience with hospital and sanatorium patients knows all too well that new lesions and extensions of old areas of disease appear with considerable frequency while patients are on graduated exercise or even strict bed rest. It is only reasonable to expect similar happenings to occur among some after discharge from the institutions. No matter how carefully one rehabilitates persons who have had definite clinical tuberculosis of the lungs with tubercle

bacilli in the sputum, some will relapse.

While only 12 to 15 per cent of all institutionalized tuberculous patients qualify for rehabilitation, in the aggregate they amount to a sizable group since we have approximately 90,000 hospital and sanatorium beds in the United States. We are justified in spending as much time, effort, and money as is necessary to do everything possible for these persons. They may be divided into several groups.

One group consists of those who were in high school or college when their disease was discovered. If the life's work they had contemplated seems satisfactory, arrangements should be made for them to complete their education. Some of this work often can be done while they are still convalescing in the institution.

Aid should be provided for them to complete it after they have been discharged.

Another group consists of persons who were engaged in their life's work when the disease was detected but, because of such factors as physical strain, it seems best to re-educate them; that is, provide short courses that will prepare them for sedentary occupations. For them and other groups state departments of education throughout the United States are playing a valuable role by arranging for instruction in hospitals and sanatoriums and in special schools after patients are discharged.

In depression years there was a small group of recovered patients well trained in the kind of work that seemed entirely safe for them but who through no fault of their own lost their previous positions, often because of their long absence from work. Organizations interested in rehabilitation can be of help to such persons by finding positions for them. However, it is a remarkable observation that persons who have recovered from tuberculosis have such a desire to work and are so trustworthy that they frequently find positions with no aid whatsoever when healthy persons of the same age group accept relief.

Large insurance companies have taken an active part in the rehabilitation of persons insured against disability from tuberculosis. They have paid full disability benefits while the patients took short or long courses in preparation for satisfactory positions. We have seen full disability benefits given patients while they took complete professional courses, such as law, when legally the insurance contract could have been terminated when school work was begun.

Managers of industry have also taken an active part in rehabilitation of the tuberculous. On numerous occasions we have seen patients who

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were paid a part or all of their salaries while ill and were welcomed back to their old positions or to new ones created for them as soon as they were able to work. Moreover, we have frequently seen part-time positions created for patients who were gradually being restored to full working capacities.

One of those industrial managers is Will Ross. Having rehabilitated himself, and having contributed greatly to the rehabilitation of many other persons by employing them, he possesses extremely valuable information on the process.

While Will Ross sympathizes with various plans being developed throughout the world for the rehabilitation of tuberculous patients, he is not impressed by the practicability of some of them.

He feels that results reported to date are pitifully inadequate. He believes that during a period of depression, when 8,000,000 to 12,000,000 presumably normal, healthy people are out of work, it is expecting too much of industry to give preference to physically handicapped persons at the expense of the healthy, who have just as acute economic problems. This is a matter of logic, but he is strongly in favor of any effort to give tuberculous patients "a boost—logic or no logic." To him rehabilitation means getting the individual back to his old job or on a job that he is physically capable of handling.

He believes that for purposes of employment, a patient is either all well or all sick, and except in unusual circumstances industry cannot be expected to make special provisions for "half-baked cures." Therefore, the first requirement for getting back on a job is that the patient have his disease completely controlled and his strength built up by graduated exercises or small duties in the sanatorium or elsewhere to a point where he can go through the day's work without needing to ask for special concessions.

Much depends upon the patient, who must make many compromises himself and leave undone much that he would like to do. If he is employed on a seven or eight hour day, he might like to devote four or five hours to enjoyment in the evening but he has no right to expect to do so until he has proved over a period of years that he can carry the work load.

Ross is of the opinion that a patient whose disease is well controlled can return to employment without asking concessions of his employer and give a full measure of service. The patient cannot go into a foundry or other heavy physical work but he can do selling or work in an office or shipping department, and similar activities that do not require unusual strength, as well as a person who has never had tuberculosis.

For twenty years Will Ross has been employing persons in such capacities and, therefore, he speaks with authority on this subject. He believes that a strong factor in favor of employing tuberculous patients when their disease is well controlled is the fact that they have had the tenacity to stick to the treatment until it is completed, a factor which is of much value in any field of endeavor. He thinks that such persons are likely to value their jobs "more than those who in the arrogance of abundant health feel independent of all ties."

Will Ross realizes that these statements do not apply to those persons who can never hope for a full working capacity and yet are able to do some work.

For them he is in favor of doing everything possible by way of providing special activities in special places. In some parts of the world, colonies and even villages have been established where such persons can lead partially active lives and contribute as much as their health will permit.

After many years of experience with tuberculosis, Will Ross says, "Tuberculosis is still a serious business. My respect for it today is greater than it ever was.

"When I see, after all our educational programs, patients entering sanatoriums in a far advanced condition, when we know that some of every ten patients who enter a sanatorium today will be dead within five years, and when I see the apparent willingness on the part of both physicians and patients to minimize the disease, I feel that we need more of the old realization that the person with tuberculosis is confronted with the greatest crisis of his life."

Thus, the present situation with reference to rehabilitation of tuberculous patients is far from satisfactory largely because of the havoc the disease has wrought in the organs of its victims before it is detected. The only ultimate solution of the problem is the development of a new situation. To realize this is a matter of finding the person who has tuberculosis before it has caused serious destruction and when its progress can be promptly stopped.

Methods for accomplishing this are available; it remains only for tuberculosis workers to put them into practice and the whole public to accept them.

When this is done, as already practiced in some places, only a few persons who develop tuberculosis will require rehabilitation; the majority will be able to continue or quickly to resume their work with reasonable modifications.

Measles and Its Prevention

(*Continued from page* 701)

if the child is going to have measles at some time it should not have it now because the danger is too great. Therefore, immediate protection is advisable and this is generally possible by injecting a small amount of gamma globulin within three days after exposure.

The procedures alluded to are for the complete avoidance of measles. The protection is only temporary and may last no longer than two or three weeks; it is known as passive immunity.

Therefore, if the child is exposed to measles again it may contract measles unless protected as before.

When older children in good health are exposed to measles it is usually felt that the establishment of a permanent immunity is desirable. This, of course, can be accomplished by an ordinary attack of measles.

Complications that may be serious can occur at any age. But if the disease is mild, complications are not likely to develop. So it may be thought best to allow the healthy child who has been exposed to measles to develop the disease but at the same time adopt measures which will tend to modify the course. This can be done by injecting gamma globulin or convalescent serum about one week after exposure to the disease.

The aim is to check the action of the measles virus in the body but not completely stifle it. As a result, the patient should have mild or what is known as attenuated measles. As a rule, attenuated measles results in permanent immunity.

As evidence of the seriousness with which measles is viewed in England, 13,464 patients were hospitalized in London during a ten month period (November to August) in the measles epidemic of 1933-34.

An official report that was published by the London County Council (January, 1936) contains the following statement: "These patients are admitted to hospital, not for the purpose of limiting the spread of the disease by means of segregation but for the benefit which individual patients will obtain from the skilled nursing attendance and treatment not obtainable in their own homes."

Measles epidemics will continue to recur until some suitable means is discovered for establishing an artificial immunity that will endure at least for a period of years. But no one should be deliberately exposed to measles because "he has to have it sometime and it may as well be now." When there is knowledge of exposure the advice of a physician should always be sought without delay.

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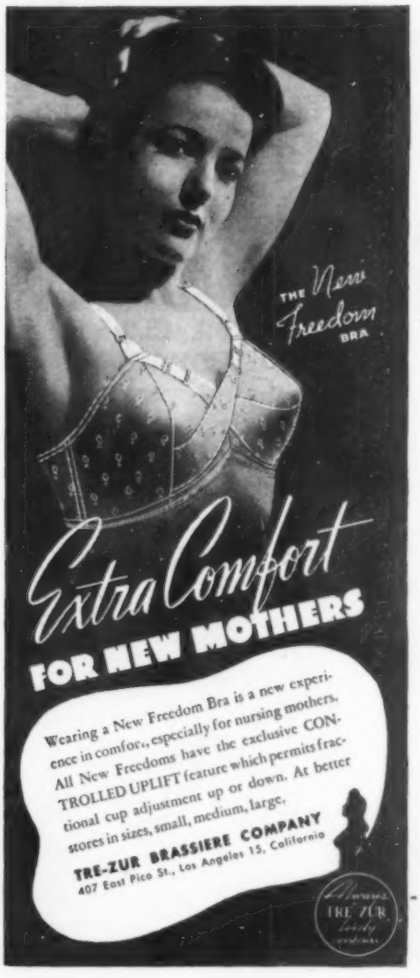
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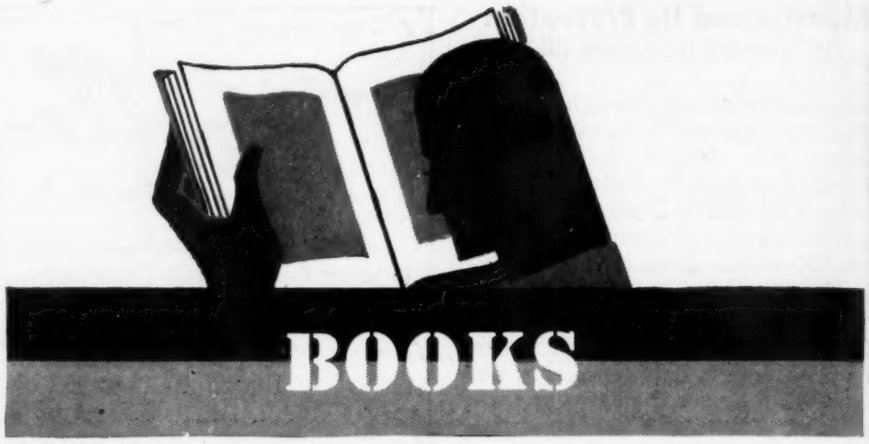


BOOKS

WHAT IS HEART DISEASE?

By Dr. W. H. Gordon. Cloth. Price, $2.50. Pp. 114. Illustrated. Grune and Stratton, Inc., 381 Fourth Avenue, New York City 16, New York. 1946.

This is a very handy little book. Exclusive of its appendix it is just one-hundred pages of relatively wide-spaced, easy to read type, with many informative diagrams. It tells about the heart and about heart trouble, and patients with heart trouble. It is matter of fact and reassuring, without in any way minimizing the importance of good care for the heart and the dangers of neglected heart disease.

W. W. BAUER, M.D.

FOOD AND HEALTH

By Henry C. Sherman. New Edition. Cloth. Price, $4.00. Pp. 78. New York: the MacMillian Company. 1947.

People who have been following the advice of the hucksters of vitamin pills ought to read this book. Never again will they feel smug about the practice of trying to supply food needs through the use of chemically pure products. Henry C. Sherman, Mitchill Professor of Chemistry, Columbia University, makes it clear—"The newer knowledge of nutrition does not send one to market asking for amino acids, mineral elements or vitamins as such, in separate forms. . . ;" but it does indicate how, through proper eating, we can live better and longer lives.

Besides the authoritative nutritional information presented in non-technical terms by Dr. Sherman, there is a plea and a blueprint for the application of known knowledge *now*.

It is the opinion of the reviewer that this book should be called to the attention of the medical profession as one they not only can recommend to patients in need of improved nutrition but can read themselves with interest and with profit. It might be used sometimes in place of a prescription for vitamin pills.

The five appendixes to the book are keys for those who wish to follow Dr. Sherman's advice. They provide information on recommended dietary allowances, nutritive values of typical foods, nutritional calories in common servings, and give illustrative records of meals, besides presenting a selected bibliography.

There are a number of good books about food and health written for the intelligent though nonprofessional reader, but I know of no book on the subject that is better or more authoritative than this one.

A. M. WILSON, B.S.
J. R. WILSON, M.D.

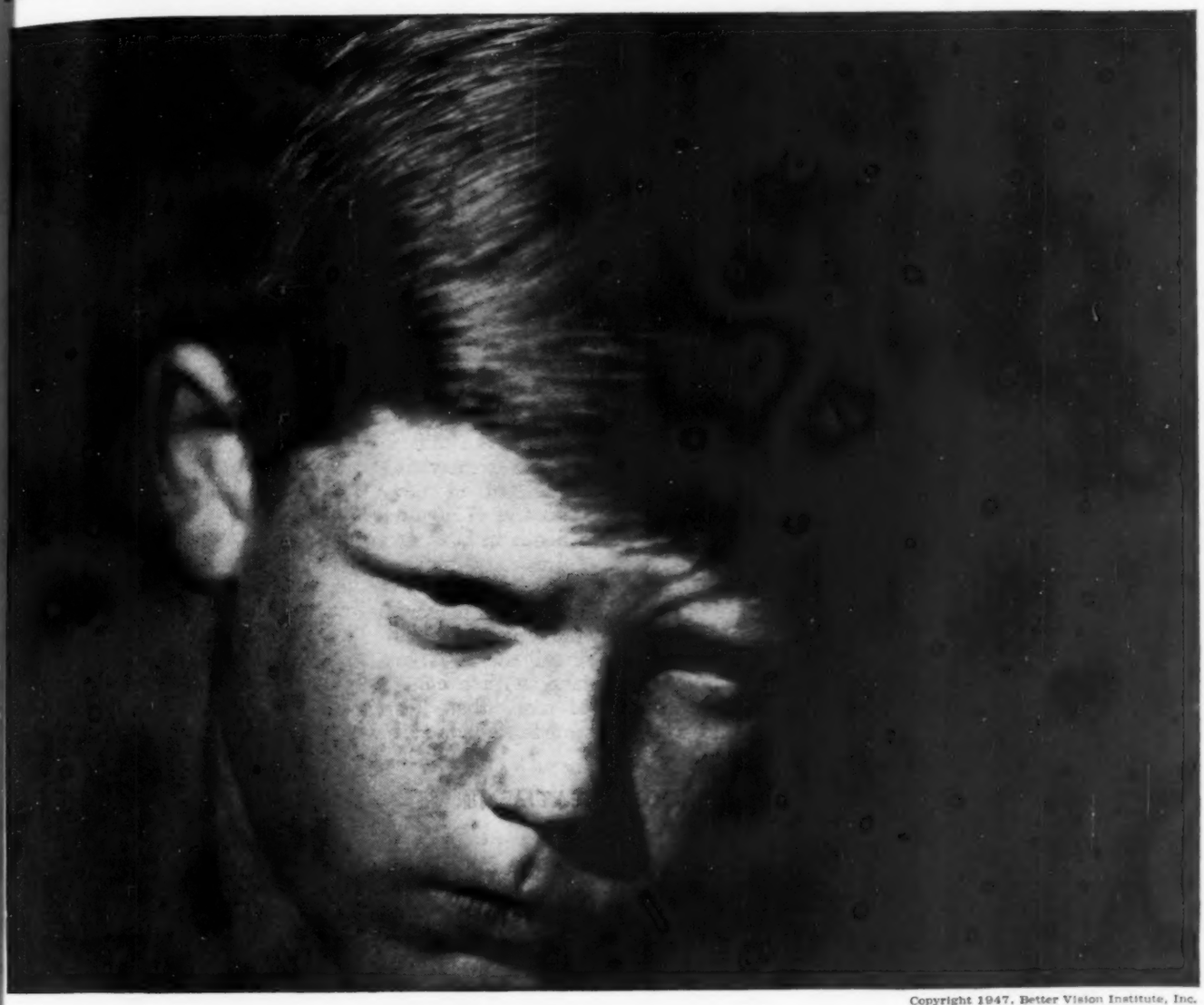
THE PROBLEM OF FERTILITY

Edited by Earl T. Engle. Cloth. Price, $3.75. Pp. 254. Princeton, N. J.: Princeton University Press, 1947.

This monograph consists of a collection of papers and discussions of a Conference on Fertility held in February, 1946 under the auspices of the National Committee on Maternal Health. The last decade has been very productive for many workers in the field of animal husbandry. This meeting provided a rare opportunity for individuals interested in animal as well as human fertility to get together and present their accumulated data. The work of nineteen investigators of note is presented in sufficient detail to provide much information for individuals interested in the problems of fertility.

Estrous cycles in the common farm animals is discussed by Asdell, Phillips and associates. The artificial induction of ovulation in domestic animals is described by Hammond of Cambridge, Cassida of the University of Wisconsin and Cole of the University of California. The histologic changes in the follicle prior to rupture and the early corpus luteum of the sow are presented by Corner. The biology, metabolism, livability and fertility of animal and human spermatazoa are discussed by Chang, Berliner, Bartlett and Macleod. The physiologic role of the cervix in fertility is presented by Abarbanel, Simmons and coworkers. Earle Engle who had much to do with the arrangements for this unique conference and is the editor of this book deserves a great deal of credit for the success of both projects.

M. EDWARD DAVIS, M.D.



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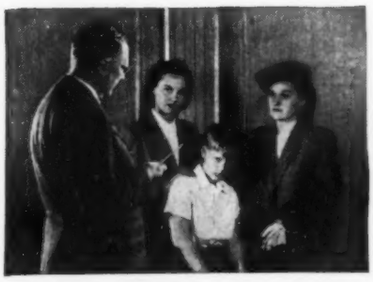

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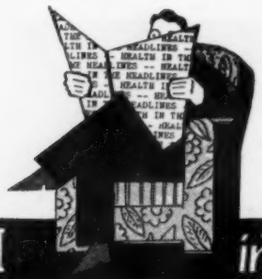

HEALTH in the headlines

BY ELLWOOD DOUGLASS

THEY LIKE IT

Children like to go to school. Anyhow, that's what 57 per cent of the boys and 68 per cent of the girls said in response to a questionnaire circulated to 374 pupils in a public school in The Bronx. Only 8 per cent of the boys and 10 per cent of the girls said they disliked school, the principal reports in *Understanding the Child,* but 35 per cent of the boys and 22 per cent of the girls were indifferent.

Comment showed that the child's attitude toward the teacher—and surely the teacher's attitude toward child and school—was an integral part of the response in all three categories. One of the "indifferent" put it this way: "Most of the teachers make the subjects very interesting. Then again there are some who just say words."

Another pupil said, "I do not like school because I like to work with my hands and in school you mostly work things out in your head."

In our own field, science was third in order of preference among boys, fifth for girls; health education was sixth for boys and eighth for girls; hygiene was near the bottom, eleventh for boys and twelfth for girls. Its companions down there, each in turn a notch lower, were something called "memory gems" and the familiar tailender, grammar.

Could that mean anything about the way hygiene is taught?

EARLY DIAGNOSIS

X-ray chest examinations of 5,298 employees of a large Midwestern manufacturer disclosed 13 active cases of tuberculosis in addition to 77 persons whose condition required further study to rule out the possibility of the disease.

"None of these victims," comments *The Challenge,* "suspected they might have tuberculosis."

KILLER IN RETREAT

Since 1913 the *Journal of the American Medical Association* has published surveys of typhoid in the large cities of the United States. Typhoid fever, a formidable disease in itself, is a useful index of the level of sanitation and public health. The thirty-third report just published makes the best showing to date.

Sixty of the 93 cities report no 1946 death due to typhoid. A similar record is shown by two somewhat smaller cities not included in the group of 93. Those two and 47 of the larger cities had no death in 1945 or 1946.

Five additional cities would also appear in the honor roll for 1946 were they not charged with typhoid deaths among nonresidents. All the 14 large cities of New England, with a combined population of more than 2½ million, won places on the honor roll for 1946.

SHOCK TREATMENT

The possibility that electrical shock treatment, administered regularly once or twice a week, might have some effect in reducing the frequency and severity of epileptic seizures has been suggested by a contributor to the *British Medical Journal.*

The investigator reported that results in 11 of 15 men who had the treatment seemed sufficiently encouraging to warrant further study of the method as an adjunct in cases where seizures were not prevented by anticonvulsant drugs.

RECOVERY, INC.

A group that performs a service for psychiatric convalescents comparable to what Alcoholics Anonymous does in its field is celebrating its tenth anniversary this year. It is Recovery, Inc., 185 N. Wabash, Chicago. Program, technic and performance of the organization have been discussed in several professional journals, including the *Journal of the American Medical Association,* and recently in the *Victor News.*

ISLAND CLINIC

The sleek truck that carries a mobile clinic for mass x-ray examinations is a familiar sight to most Americans, at least by newspaper photograph, though by no means as familiar as it must become if tuberculosis is ever to be whipped.

In the island district of Southwestern Finland the mobile clinic is a motorboat. It is provided by the American Red Cross with enough film for 350,000 examinations. The tuberculosis death rate in Finland, says the *Red Cross Courier,* is 160 to the 100,000 population, one of the highest in the world.

SCOREBOARD

A study of Princeton football statistics for the ten years 1933-42, reported in the *Journal-Lancet,* places the chances of injury at 69 in 100 and, once injured, the chances of a repeat performance at 7 in 10. The average time out with each injury was 5.2 days. One casualty in 25 was out for the season.

But only 1 man in 100—8 men in a total "squad" of 780—was permanently knocked out of football. Only three men had permanent effects of significance in ordinary activities outside the contact sports. The most serious was a backward dislocation at the knee of a 240 pound player which ultimately required amputation.

The 31 players knocked out for a season suffered, among them, 16 fractures, 12 sprained knees, a bruised kidney, a sprained back and a severe set of cuts and bruises. All recovered fully.

Besides the 39 more seriously injured players, 524 different persons suffered 889 different injuries in the ten years. There were 318 cases of bruises, 267 of sprains, 87 strained or pulled muscles, 70 fractures, 60 concussions and a miscellany of cuts, broken teeth and so on.

Half of the injuries occurred in the preseason training period. "Fatigue, faulty execution, too hasty return to the game after injury and inadequate protection," reports the Princeton physician, "were and are the 'Four Horsemen' of football injuries."

The worst year was 1934. There were 125 injuries in a squad of 75—one and two-thirds times around—plus dysentery!

There was a risk, but, so far as concerns permanent injury, a small risk and probably worth it, the physician and fan concludes. "You might even have been one of those fortunate players who, for the first time in Princeton football history, faced Yale four seasons in a row and licked them each time."

MEDICAL TEACHING MISSION

A team of ten health experts organized by the Unitarian Service Committee, similar to that whose visit to Czechoslovakia last summer was described in the July issue of HYGEIA, has just returned from a mission to Austria and Hungary sponsored by the Interim Commission of the United Nations Health Organization.